CRFE

Access DB# <u>5899</u>6

SEARCH REQUEST FORM

	Scientific and Technical	Information Center	
Requester's Full Name: Legal Art Unit: [64]. Phon Mail Box and Bldg/Room Locat Grot. Crn 76-77.	e Number 30 <i>5- 0808</i> ion: <u>0001 9e12</u> Resu	Examiner #: ???;34 Date: 31,3/o.3 Serial Number: 01/2?3 Ju.5 Its Format Preferred (circle): PAPER DISK E-MAIL 8 searches in order of need. //1/E/	
utility of the invention. Define any ten known. Please attach a copy of the cov	ns that may have a special mee er sheet, pertinent claims, and t		
Title of Invention: <u>Composit</u> Inventors (please provide full names) <u>Sarcac Nie</u>	hons and Meltou : Robert Michael	13 far Corty Fregnancy Diagnosis Loberts, Jonathan, Onlinew Green,	
Earliest Priority Filing Date:	3/20/98	arent, child, divisional, or issued patent numbers) alang with the	
Sequence Search for Seg. Id bovine pregnoncy Phose also	<u>NO: 32</u> Bi associated	PAG9.	
RECEIVED CARGOSTIC	Point of Contact Toby Point Technical Info. Specialist CMI 6A08 703-308-3534	Thorks, © Ofice. C.	
TAFF USE ONLY	Type of Search	Vendors and cost where applicable	

STAFF USE ONLY	Type of Search	Vendors and cost where applical
Searcher:	NA Sequence (#)	_ STN 274
Scarcher Phone #:	AA Sequence (#)	
Searcher Location:	Structure (#)	Questel/Orbis
hate Searcher Picked Up: 3/17	Bibliographic	
tate Completed: 84/2	Litigation	
earcher Prep & Review Time: 18 20	Fulltext ,	
lerical Prep Time:	Pateni Family	
nline Time: 10 14490) _{Other}	
PTO-1590 (8-01)		
,		1

>> file caplus; d que 117; d que 118; d que 119; d que 124; d que 127 FILE "CAPLUS' ENTERED AT 18:21:10 ON 02 APR 203 USE 1S SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT. PLEASE SEE "HELP USAGETERMS" FOR DETAILS. COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)

Copyright of the articles to which records in this database refer is held by the publishers listed in the PUBLISHER (PB) field (available for records published or updated in Chemical Abstracts after December 26, 1996), unless otherwise indicated in the original publications. The CA Lexicon is the copyrighted intellectual property of the American Chemical Society and is provided to assist you in searching databases on STN. Any dissemination, distribution, copying, or storing of this information, without the prior written consent of CAS, is strictly prohibited.

FILE COVERS 1907 - 2 Apr 2003 VOL 138 ISS 14 FILE LAST UPDATED: 1 Apr 2003 (20030401/ED)

L6

This file contains CAS Registry Numbers for easy and accurate substance identification.

47995 SEA FILE=CAPLUS ABB=ON PLU=ON CATTLE/CW

L7	3046	SEA FILE=CAPLUS	ABB=ON	PLU=ON	RUMINANT/CT
L8	66	SEA FILE=CAPLUS	ABB=ON	PLU=ON	BOVIDAE/CT
L16	25	SEA FILE=CAPLUS	ABB=ON	PLU=ON	TEST KITS/CT (L) PREGN?
L17 .	[2	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L16 AND (L6 OR L7 OR L8)
L	L-				
L5		SEA FILE=CAPLUS			BOPAG?
		SEA FILE=CAPLUS			
L18	. 2	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L5 AND L11
`	\	*			
L3	46	SEA FILE=CAPLUS	ABB=ON	PLU=ON	PREGNANCY (5A) ASSOCIAT? (2A)
		ANTIGEN			
L4		SEA FILE=CAPLUS		PLU=ON	PAG#
L5		SEA FILE=CAPLUS		PLU=ON	BOPAG?
L6		SEA FILE=CAPLUS		PLU=ON	CATTLE/CW
L7		SEA FILE=CAPLUS		PLU=ON	RUMINANT/CT
L8		SEA FILE=CAPLUS			BOVIDAE/CT
L10		SEA FILE=CAPLUS			GLYCOPROTEINS/CW (L) PREGNAN?
L14	23	SEA FILE=CAPLUS	ABB=ON	PLU=ON	(L3 OR L4 OR L5) AND (L6 OR L7
		OR L8) AND L10.			
L19	4	SEA FILE=CAPLUS	ABB=ON	PLU=ON	L14 AND BIOCHEMICAL METHODS/SC
\		SX			
* 0			***		
L3	46	SEA FILE=CAPLUS ANTIGEN	ABB=ON	PLU=ON	PREGNANCY (5A) ASSOCIAT? (2A)
T.4	50722		* D.D. ON	DIT ON	P2.04
L4 L5		SEA FILE=CAPLUS		PLU=ON	PAG#
		SEA FILE=CAPLUS		PLU=ON	BOPAG?
L6		SEA FILE=CAPLUS		PLU=ON	CATTLE/CW
L7		SEA FILE=CAPLUS		PLU=ON	RUMINANT/CT
L8	66	SEA FILE=CAPLUS	ARR=ON	PLU=ON	BOVIDAE/CT

```
Cook 09/273,164
           860 SEA FILE=CAPLUS ABB=ON PLU=ON
                                               GLYCOPROTEINS/CW (L) PREGNAN?
           4414 SEA FILE=CAPLUS ABB=ON
                                       PLU=ON EARLY PREGN?
               ŞEA FILE=CAPLUS ABB=ON
                                       PLU=ON
                                               (L3 OR L4 OR L5) AND (L6 OR L7
               OR L8) AND L10 AND L20
            46 SEA FILE=CAPLUS ABB=ON PLU=ON
                                              PREGNANCY (5A) ASSOCIAT? (2A)
               ANTIGEN
T.4
         58733 SEA FILE=CAPLUS ABB=ON
                                       PLU=ON
                                               PAG#
L5
             5 SEA FILE=CAPLUS ABB=ON
                                       PT-U=ON
                                               BOPAG?
L6
         47995 SEA FILE=CAPLUS ABB=ON
                                       PLU=ON
                                               CATTLE/CW
L7
          3046 SEA FILE=CAPLUS ABB=ON
                                       PLU=ON RUMINANT/CT
1.8
            66 SEA FILE=CAPLUS ABB=ON
                                       PLU=ON
                                               BOVIDAE/CT
L20
          4414 SEA FILE=CAPLUS ABB=ON
                                       PLU=ON EARLY PREGN?
T.25
            15 SEA FILE=CAPLUS ABB=ON
                                      PLU=ON
                                               (L3 OR L4 OR L5) AND (L6 OR L7
               OR L8) AND L20
            II SEA FILE=CAPLUS ABB=ON PLU=ON L25 AND (CONCEPTUS OR EARLY OR
               RETINOL OR ALPHA) /TI
=> s 117 or 118 or 119 or 124 or 127
          17 E17 OR L18 OR L19 OR L24 OR L27
=> file medline; d que 133; d que 137; d que 140
FILE 'MEDLINE' ENTERED AT 18:21:46 ON 02 APR 2003
FILE LAST UPDATED: 2 APR 2003 (20030402/UP). FILE COVERS 1958 TO DATE.
On June 9, 2002, MEDLINE was reloaded. See HELP RLOAD for details.
MEDLINE thesauri in the /CN, /CT, and /MN fields incorporate the
MeSH 2003 vocabulary. See http://www.nlm.nih.gov/mesh/summ2003.html
for a description on changes.
This file contains CAS Registry Numbers for easy and accurate
substance identification.
L28
        209481 SEA FILE=MEDLINE ABB=ON PLU=ON CATTLE/CT
L29
          1227 SEA FILE=MEDLINE ABB=ON PLU=ON RUMINANTS/CT
L31
            25 SEA FILE=MEDLINE ABB=ON PLU=ON PREGNANCY ANTIGEN/CN
             O SEA.FILE=MEDLINE ABB=ON PLU=ON
                                               (L28 OR L29) AND L31
             4 SEA FILE=MEDLINE ABB=ON PLU=ON BOPAG?
L28
        209481 SEA FILE=MEDLINE ABB=ON PLU=ON CATTLE/CT
L29
          1227 SEA FILE=MEDLINE ABB=ON PLU=ON RUMINANTS/CT
```

=> s 137 or 140 L75 14 L37 OR L40 => file embase; d que 150 FILE 'EMBASE' ENTERED AT 18:22:27 ON 02 APR 2003 'COPYRIGHT (C) 2003 Elsevier Science B.V. All rights reserved.

FILE COVERS 1974 TO 27 Mar 2003 (20030327/ED)

EMBASE has been reloaded. Enter HELP RLOAD for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

L41	79000	SEA FILE=EMBASE	ABB=ON PLU=0	ON CATTLE+NT/CT
L42	116792	SEA FILE=EMBASE	ABB=ON PLU=0	ON BOVIDS+NT/CT
L43	10131	SEA FILE=EMBASE	ABB=ON PLU=0	ON PREGNAN? (5A) EARLY
L45	149810	SEA FILE=EMBASE	ABB=ON PLU=0	ON GLYCOPROTEIN+NT/CT
L46	52	SEA FILE=EMBASE	ABB=ON PLU=0	ON PREGNANCY (3A) ASSOCIATED (3A)
		ANTIGEN		
L47	3	SEA FILE=EMBASE	ABB=ON PLU=0	ON BOPAG?
L49	11	SEA FILE=EMBASE	ABB=ON PLU=0	ON (L41 OR L42) AND L43 AND (L45
		OR L46 OR L47)		
L50	4	SEA FILE=EMBASE	ABB=ON PLU=0	ON L49 AND (PAG OR EARLY)/TI

=> file biosis; d que 160; d que 161; d que 162; d que 164 FILE BIOSIS; ENTERED AT 18:22:48 ON 02 APR 2003 COPYRIGHT (C) 2003 BIOLOGICAL ABSTRACTS INC. (R)

87052 SEA ETLE-BIOSIS ARR-ON DILL-ON CATTLE

FILE COVERS 1969 TO DATE. CAS REGISTRY NUMBERS AND CHEMICAL NAMES (CNs) PRESENT FROM JANUARY 1969 TO DATE.

RECORDS LAST ADDED: 26 March 2003 (20030326/ED)

L52		SEA	FILE=BIOSIS	ABB=ON	PLU=ON	RUMINANT
L53	479700	SEA	FILE=BIOSIS	ABB=ON	PLU=ON	BOVID? OR BOVINE
L55		SEA	FILE=BIOSIS	ABB=ON	PLU=ON	BOPAG?
L58	10179	SEA	FILE=BIOSIS	ABB=ON	PLU=ON	PREGN? (5A) EARLY
L60	1	SEA	FILE=BIOSIS	ABB=ON	PLU=ON	(L51 OR L52 OR L53) AND L58
		AND	L55			

L51	87052 S	EA FILE=BIOSIS	ABB=ON	PLU=ON	CATTLE	
L53	479700 S	EA FILE=BIOSIS	ABB=ON	PLU=ON	BOVID? OR BOVINE	
L57	69 S	EA FILE=BIOSIS	ABB=ON	PLU≔ON	PREGNANCY (3A) ASSOCIATED	(3A)
	A	NTIGEN				
L61	2 S	EA FILE=BIOSIS	ABB=ON	PLU=ON	L51 AND L53 AND L57	
	4.0					

L55	5	SEA	FILE=BIOSIS	ABB=ON	PLU=ON	BOPAG?	
462	4	SEA	FILE=BIOSIS	ABB=ON	PLU=ON	L55 NOT	RABBIT/TI
5							

L51 87052 SEA FILE-BIOSIS ABB-ON PLU-ON CATTLE

```
T.52
          12088 SEA FILE=BIOSIS ABB=ON PLU=ON RUMINANT
          479700 SEA FILE=BIOSIS ABB=ON PLU=ON BOVID? OR BOVINE
 T.53
T.54
           95490 SEA FILE=BIOSIS ABB=ON PLU=ON GLYCOPROTEIN?
1.58
           10179 SEA FILE=BIOSIS ABB=ON PLU=ON PREGN? (5A) EARLY
L63
              29 SEA FILE=BIOSIS ABB=ON PLU=ON (L51 OR L52 OR L53) AND L54
                 AND L58
£64 ;
            717. SEA FILE=BIOSIS ABB=ON PLU=ON L63 AND (EARLY OR DIAGNOSIS OR
                SPECIFIC OR PAG OR OPAG OR GLYCOSYL? OR RUMINANTS) /TI
=> s 160 or 161 or 162 or 164
L76
            22 L60 OR L61 OR L62 OR L64
=> file wpid; d que 167; d que 169; d que 173
FILE 'WPIDS' ENTERED AT 18:23:31 ON 02 APR 2003
COPYRIGHT (C) 2003 THOMSON DERWENT
FILE LAST UPDATED:
                             2 APR 2003
                                             <20030402/UP>
MOST RECENT DERWENT UPDATE:
                                              <200322/DW>
DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE
>>> PATENT IMAGES AVAILABLE FOR PRINT AND DISPLAY >>>
>>> FOR DETAILS OF THE PATENTS COVERED IN CURRENT UPDATES.
    SEE http://www.derwent.com/dwpi/updates/dwpicov/index.html <<<
>>> FOR A COPY OF THE DERWENT WORLD PATENTS INDEX STN USER GUIDE,
    PLEASE VISIT:
 http://www.stn-international.de/training_center/patents/stn_guide.pdf <<<
>>> FOR INFORMATION ON ALL DERWENT WORLD PATENTS INDEX USER
    GUIDES, PLEASE VISIT:
    http://www.derwent.com/userquides/dwpi quide.html <<<
L67 i
             1 SEA FILE=WPIDS ABB=ON PLU=ON BOPAG?
L69
             0 SEA FILE=WPIDS ABB=ON PLU=ON PREGNANCY (3A) ASSOCIATED (3A)
                ANTIGEN
L65
          22777 SEA FILE=WPIDS ABB=ON PLU=ON CATTLE OR COW OR RUMINANT OR
                BOVINE OR BOVID?
L66
            215 SEA.FILE=WPIDS ABB=ON PLU=ON PREGN? (5A) EARLY
L70
             31 SEA FILE-WPIDS ABB-ON PLU-ON L65 AND L66
L72
             16 SEA FILE-WPIDS ABB-ON PLU-ON L70 AND (DOMESTIC OR FARM OR
                SERUM OR LABEL OR POLYPEPTIDES OR MONOCLONAL OR MILK) /TI
```

```
=> $ 167 or 173
            13 L67 OR L73
```

L73 %

=> dup rem 175 174 150 176 177 FILE 'MEDLINE' ENTERED AT 18:24:21 ON 02 APR 2003

OR MUS)/TI

FILE 'CAPLUS' ENTERED AT 18:24:21 ON 02 APR 2003

13 SEA FILE=WPIDS ABB=ON PLU=ON L72 NOT (HYBRIDOMA OR CONGLUTIN?

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT. PLEASE SEE "HELP USAGETERMS" FOR DETAILS. COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'EMBASE' ENTERED AT 18:24:21 ON 02 APR 2003 COPYRIGHT (C) 2003 Elsevier Science B.V. All rights reserved.

FILE 'BIOSIS' ENTERED AT 18:24:21 ON 02 APR 2003 COPYRIGHT (C) 2003 BIOLOGICAL ABSTRACTS INC. (R)

FILE 'WPIDS' ENTERED AT 18:24:21 ON 02 APR 2003

COPYRIGHT (C) 2003 THOMSON DERWENT PROCESSING COMPLETED FOR L75

PROCESSING COMPLETED FOR L74 PROCESSING COMPLETED FOR L50

PROCESSING COMPLETED FOR L76 PROCESSING COMPLETED FOR L77

- L78 56 DUP REM L75 L74 L50 L76 L77 (14 DUPLICATES REMOVED)

ANSWERS '1-14' FROM FILE MEDLINE ANSWERS '15-28' FROM FILE CAPLUS ANSWERS '29-32' FROM FILE EMBASE ANSWERS '33-44' FROM FILE BIOSIS ANSWERS '45-56' FROM FILE WPIDS

=> d ibib ab 178 1-56

L78 ANSWER 1 OF 56 MEDLINE

ACCESSION NUMBER: 2003021392 IN-PROCESS

DOCUMENT NUMBER:

22415929 PubMed ID: 12527076 TITLE:

Double radial immunodiffusion as a tool to identify pregnancy-associated glycoproteins in ruminant and

nonruminant placentae.

AUTHOR: El Amiri Bouchra; Melo de Sousa Noelita; Mecif Khira; Desbuleux Henri; Banga-Mboko Henri; Beckers Jean Francois

DUPLICATE 1

CORPORATE SOURCE: Department of Physiology of Reproduction, Faculty of Veterinary Medicine, University of Liege, Bd de Colonster

No. 20 B41, B4000, Sart Tilman, Belgium.

SOURCE: THERIOGENOLOGY, (2003 Mar) 59 (5-6) 1291-301. Journal code: 0421510. ISSN: 0093-691X.

PUB. COUNTRY: United States

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English FILE SEGMENT:

IN-PROCESS; NONINDEXED; Priority Journals ENTRY DATE: Entered STN: 20030116

Last Updated on STN: 20030116

AB Pregnancy-associated glycoproteins (PAGs) are antigens synthesized in the superficial layers of the ruminant trophoblast. Initially, they were identified either as proteins released into the maternal bloodstream (where they have applications in pregnancy diagnosis) (PAG1) or as molecules binding to the LH receptor (PAG2). In this study, double radial immunodiffusion was used to test the ability of antisera raised against different PAG molecules (bovine, ovine and caprine) to react with placental extracts from nonruminants (rabbit, cat, mouse, pig, and wild pig) and ruminants (cow, ewe, and goat). Placental extracts from all nonruminants tested except rabbit reacted with anti bovine PAG2 (antiboPAG2). Extracts of ruminant placentas reacted with different antisera, confirming the expression of various PAG molecules. According to the time at which the placentas were collected (early or middle pregnancy), the reaction differed as regards the thickness, position, and number of precipitation lines, suggesting that PAG expression varies as pregnancy progresses. Bos indicus and Bos taurus placental extracts

exhibited different reactions with anti-boPAG2: a single precipitation line in the former case and the both to line in the latter. This suggest differential expression of boPAG2 related glycoproteins in these two subspecies.

L78 ANSWER 2 OF 56 MEDLINE DUPLICATE 2

ACCESSION NUMBER: 2001504042 MEDLINE DOCUMENT NUMBER: 21437879 PubMed ID: 11553911

TITLE: Gene for porcine pregnancy-associated glycoprotein 2

(poPAG2): its structural organization and analysis of its promoter.

AUTHOR: Szafranska B; Miura R; Ghosh D; Ezashi T; 'Xie S; Roberts R

M; Green J A

CORPORATE SOURCE: Department of Animal Sciences. Un

CORPORATE SOURCE: Department of Animal Sciences, University of Missouri-Columbia, Columbia, Missouri 65211, USA.

CONTRACT NUMBER: R37 HD21896 (NICHD)

SOURCE: MOLECULAR REPRODUCTION AND DEVELOPMENT, (2001 Oct) 60 (2)

137-46. Journal code: 8903333. ISSN: 1040-452X.

PUB. COUNTRY: United States

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English

FILE SEGMENT: Priority Journals

OTHER SOURCE: Priority Journals
OTHER SOURCE: GENBANK-U39198; G

GENBANK-U39198; GENBANK-U39199; GENBANK-U39762; GENBANK-U39763; GENBANK-U41421; GENBANK-U41422;

GENBANK-U41423; GENBANK-U41424 ENTRY MONTH: 200203

ENTRY DATE: Entered STN: 20010913

Last Updated on STN: 20020313 Entered Medline: 20020312

AR The pregnancy-associated glycoproteins (PAG) are abundant secretory products of the placental trophectoderm of ungulate species. They are structurally related to pepsin, having the capability to bind peptides. However, many cannot function as enzymes due to amino acid substitutions in and around the catalytic site. Here, we demonstrate that pigs, like cattle and sheep, but unlike equids, have multiple PAG genes. One of the transcribed porcine PAG (poPAG) genes, the one for poPAG2, was cloned. It had a nine-exon organization similar to that of other mammalian aspartic proteinase genes with an atypical TATA sequence. A total of 1.2 kbp upstream from exon 1 was sequenced. This region shared identity (> 65%) with the promoter regions of the bovine (bo) PAG1, boPAG2 and equine (eq) PAG genes, but not with other aspartyl proteinase genes, including that of pepsinogen A. Nor were there clear similarities to the promoters of other genes with trophoblast-specific expression. Of the different poPAG2 promoter constructs tested in transfection experiments in two human (JAr and JEG3) and one rat (Rcho) choriocarcinoma cell lines, only the shortest (-149 bp) was required to provide full expression of a luciferase reporter. Although this short promoter was not active in Cos-1 and L-929 cells, it was active in CHO cells, a transformed non-trophoblast hamster ovarian cell line. Co-transfection of Ets2 elevated the activity of this short promoter approximately six-fold in JAr cells, but, disruption of the two putative Ets sites did not alter the ability of Ets2 to transactivate the promoter. In the non-trophoblast cell lines, Ets2 failed to elicit any response. Ets2 responsiveness may be a common feature of most or all trophoblast-expressed genes, although in the case of poPAG2, the effect may be indirect. Copyright 2001 Wiley-Liss, Inc.

L78 ANSWER 3 OF 56 MEDLINE DUPLICATE 3

ACCESSION NUMBER: 2000391364 MEDLINE DOCUMENT NUMBER: 20297004 PubMed ID: 10819764 TITLE: Pregnancy-associated bovine and ovine glycoproteins exhibit

spatially and temporally distinct expression patterns

during pregnancy.

AUTHOR: Green J A; Xie S; Quan X; Bao B; Gan X; Mathialagan N;

Beckers J F; Roberts R M

CORPORATE SOURCE: Department of Animal Sciences, University of Missouri-Columbia, Columbia, Missouri 65211, USA.

SOURCE: BIOLOGY OF REPRODUCTION, (2000 Jun) 62 (6) 1624-31.

Journal code: 0207224. ISSN: 0006-3363. PUB. COUNTRY: United States

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English

FILE SEGMENT: Priority Journals

OTHER SOURCE: GENBANK-AF020506; GENBANK-AF020507; GENBANK-AF020508; GENBANK-AF020511; GENBANK-AF020511;

GENBANK-AF020512; GENBANK-AF020513; GENBANK-AF020514; GENBANK-AF192330; GENBANK-AF192331; GENBANK-AF192332; GENBANK-AF192333; GENBANK-AF192334; GENBANK-AF192335; GENBANK-AF192336; GENBANK-AF192337; GENBANK-AF192338; GENBANK-L06153; GENBANK-M79621; GENBANK-M7962;

GENBANK-U30251; GENBANK-U94789; GENBANK-U94790; GENBANK-U94791; GENBANK-U94792; GENBANK-U94793; GENBANK-U94794; GENBANK-U94795

GENBANK-U9479 ENTRY MONTH: 200008

ENTRY DATE: Entered STN: 20000824 Last Updated on STN: 20000824 Entered Medline: 20000817

AR The pregnancy-associated glycoproteins (PAG) constitute a large family of recently duplicated genes. They show structural resemblance to pepsin and related aspartic proteinases. A total of 21 bovine (bo) PAG and 9 ovine (ov) PAG cDNA have been identified. Phylogenetic analysis indicated that the PAG are divided into two main groupings that accurately reflect their tissue expression, as determined by in situ hybridization. In the first pattern, represented by ovPAG-2 and boPAG-2, -8, -10, and -11 (where the numbering is arbitrary and reflects order of discovery within species), expression occurred throughout the outer epithelial layer of the placenta (trophectoderm). The second pattern was predominant localization to binucleate cells. Ribonuclease protection assays, which allow discrimination between closely related transcripts, have shown that the expression of PAG varies in a temporal manner over pregnancy. Of those bovine PAG expressed predominantly in binucleate cells, boPAG-1, -6, and -7 are expressed weakly, if at all, by Day 25 placenta, but are present at the middle and end of pregnancy. Others, such as boPAG -4, -5, and -9, are expressed at Day 25 and at earlier stages. Although not among the earliest PAG produced by the trophoblast, boPAG-1 has been used for pregnancy diagnosis, particularly in dairy cows, where there is a major need for a sensitive method capable of detecting pregnancy within 1 mo of conception. It seems likely that some of the newly discovered PAG will be better candidates than PAG-1 for pregnancy diagnosis.

L78 ANSWER 4 OF 56 MEDLINE DUPLICATE 6
ACCESSION NUMBER: 2000106090 MEDLINE

DOCUMENT NUMBER: 20106090 PubMed ID: 10641336

TITLE: Pregnancy associated glycoproteins in ruminants: inactive

members of the aspartic proteinase family.

AUTHOR: Beckers J F; Drion P V; Garbayo J M; Perenyi Z; Zarrouk A; Sulon J; Remv B; Szenci O

CORPORATE SOURCE: University of Liege, Faculty of Veterinary Medicine, Physiology of Reproduction, Sart-Tilman, Belgium.

SOURCE: ACTA VETERINARIA HUNGARICA, (1999) 47 (4) 461-9. Ref: 42

Journal code: 8406376. ISSN: 0236-6290.

PUB. COUNTRY: Hungary

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

> General Review; (REVIEW) (REVIEW, TUTORIAL)

LANGUAGE: English

FILE SEGMENT: Priority Journals

ENTRY MONTH: 200002

ENTRY DATE: Entered STN: 20000218

Last Updated on STN: 20000218

Entered Medline: 20000210

The Pregnancy Associated Glycoproteins (PAGs) presented in this paper are AB largely expressed in the ruminant placenta. These proteins are classified as probably inactive members of the aspartic proteinase family. Pepsinogen, renin, cathepsin E & D and chymosine are typical members of this family, characterised by the presence of aspartic acids boarding the recognition sites. Secreted in the peripheral blood of the pregnant female from early pregnancy, these proteins can be used in serological tests for establishing different diagnoses. In the veterinary practice, these diagnoses are useful for both pregnancy confirmation and follow-up

of trophoblastic function. The first aspect can help breeders in the management of reproduction, while the second one more specifically concerns clinicians and researchers wishing to establish a differential diagnosis of pathologic conditions affecting pregnancy.

L78 ANSWER 5 OF 56 MEDLINE DUPLICATE 7

ACCESSION NUMBER: 97084790

MEDITNE DOCUMENT NUMBER: 97084790

PubMed ID: 8931124

TITLE: Comparative modelling and analysis of amino acid

'substitutions suggests that the family of

pregnancy-associated glycoproteins includes both active and

inactive aspartic proteinases. AUTHOR . Guruprasad K; Blundell T L; Xie S; Green J; Szafranska B;

Nagel R J; McDowell K; Baker C B; Roberts R M

CORPORATE SOURCE: Department of Crystallography, Birkbeck College, University

of London, UK.

CONTRACT NUMBER: HD 29483 (NICHD)

SOURCE: PROTEIN ENGINEERING, (1996 Oct) 9 (10) 849-56.

Journal code: 8801484, ISSN: 0269-2139.

PUB. COUNTRY: ENGLAND: United Kingdom

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: Priority Journals

OTHER SOURCE: GENBANK-L06151; GENBANK-L06153; GENBANK-L34360; GENBANK-L34361; GENBANK-L38511; GENBANK-M73961;

GENBANK-M73962

ENTRY MONTH: 199705 ENTRY DATE:

Entered STN: 19970602

Last Updated on STN: 20000303

Entered Medline: 19970522

AB The pregnancy-associated glycoproteins (PAGs) are secretory products synthesized by the outer epithelial cell layer (chorion) of the placentas of various ungulate species. The amino acid sequences of eight PAGs have been inferred from cloned cDNA of cattle and sheep, as well as of the non-ruminant pig and horse. We compare the PAG sequences and present results of the three-dimensional models of boPAG-1 and ovPAG-1 that were constructed on the basis of the crystal structures of homologous porcine pepsin and bovine chymosin using a rule-based comparative modelling approach. Further, we compare peptide binding subsites defined by interactions with pepstatin and a decapeptide inhibitor (CH-66) modelled on the basis of crystal structures of other aspartic proteinases.

We have extended our analysis of the peptide binding subsites to the other PAG molecules of known sequence by aligning the PAG sequences to the structural template derived from the pepsin family and by making use of the three-dimensional models of the boPAG-1 and ovPAG-1. The residues that are likely to affect peptide binding in the boPAG -1, ovPAG-1 and other PAG molecules have been identified. Sequence comparisons reveal that all PAG molecules may have evolved from a pepsin-like progenitor molecule with the equine PAG most closely related to the pepsins. The presence of substitutions at the S1 and other subsites relative to pepsin make it unlikely that either bovine, ovine or the porcine PAG-1 have catalytic activity. Only two of the eight PAGs examined (porcine PAG-2 and equine PAG-1) retain features of active aspartic proteinases with pepsin-like activity. Our results indicate that in the PAGs so far characterized the peptide binding specificities differ significantly from each other and from pepsin, despite their high sequence identities. Analysis of the various peptide binding subsites demonstrates why both bovine and ovine PAG-1 are capable of binding pepstatin. The strong negative charge in the binding cleft of boPAG-1 and ovPAG-1 indicates a preference for lysine- or arginine-rich peptides. PAGs represent a family where the possible peptide binding function may be retained through their binding specificities, but where the catalytic activity may be lost in some cases, such as the boPAG-1, ovPAG-1 and the poPAG-1.

L78 ANSWER 6 OF 56 MEDLINE DUPLICATE 10

ACCESSION NUMBER: 92190402 MEDLINE

DOCUMENT NUMBER: 92190402 __ PubMed ID: 1547318 TITLE: Radioimmunoassay of a bovine pregnancy-associated

glycoprotein in serum: its application for pregnancy

diagnosis.

Zoli A P; Guilbault L A; Delahaut P; Ortiz W B; Beckers J F AUTHOR: CORPORATE SOURCE: Departement d'Endocrinologie et de Reproduction Animales

(Unite de Recherche IRSIA), Faculte de Medecine Veterinaire, Universite de l'Etat a Liege, Belgique.

BIOLOGY OF REPRODUCTION, (1992 Jan) 46 (1) 83-92.

SOURCE: Journal code: 0207224. ISSN: 0006-3363.

United States

PUB. COUNTRY: DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: Priority Journals ENTRY MONTH: 199204

ENTRY DATE:

Entered STN: 19920509

Last Updated on STN: 19920509

Entered Medline: 19920420

AR A sensitive and specific double-antibody RIA for a bovine pregnancy-associated glycoprotein (bPAG) is described. The limit of detection was 0.2 ng/ml. The assay was specific for bPAG in that pituitary and placental gonadotropic hormones and other placental or serum proteins assayed in serial dilutions did not cross-react. The RIA allowed measurement of bPAG in placental extracts, fetal serum, fetal fluids, and serum or plasma of pregnant cows. About 20% of unbred heifers and nonpregnant cows had detectable levels ranging from 0.30 +/- 0.09 to 0.50 +/- 0.17 ng/ml (mean +/- SD), and 15% of bull sera showed higher concentrations (3.01 +/- 1.73 ng/ml) of bPAG or bPAG-like protein. Variations among animals was observed in fetal serum bPAG concentrations. Bovine PAG was detected in maternal peripheral blood at Day 22 of pregnancy (mean +/- SD, 0.38 +/- 0.13 ng/ml) in some animals and at Day 30 in all pregnant cows. Peripheral serum bPAG levels increased progressively to 3.60 +/- 1.73 ng/ml (mean +/- SD) at Day 30 of pregnancy, to 24.53 +/-8.81 ng/ml at Day 120, and to 1551.91 +/- 589.68 ng/ml at Day 270. Peak concentration of bPAG was 2462.42 +/- 1017.88 ng/ml and it occurred 1-5

days prior to parturition. After delivery, bPAG concentrations decreased steadily to 499.63 +/- 267.20 ng/ml at Day 14 postpartum (pp), 10.12 +/-7.84 ng/ml at Day 60 pp, and 1.44 +/- 1.08 ng/ml at Day 90 pp. The undetectable concentration (less than 0.20 ng/ml) was reached by Day 100 +/- 20 pp. An investigation undertaken in Holstein heifers, Holstein cows, and Hereford cows used as recipients for purebred Holstein embryos supplied evidence of the influence of breed of recipient and sex of fetuses on peripheral concentrations of bPAG. A herd of 430 Holstein-Friesian heifers that had received transferred embryos were bled at Day 35 postestrus (pe) for measurement of bPAG. The bPAG was detected in 287 of 430 serum samples analyzed. By rectal palpation performed at Day 45 pe, 267 heifers with detectable levels of bPAG at Day 35 pe were confirmed to be pregnant as were 3 of 143 heifers previously diagnosed as not pregnant by RIA. These results suggest that detection of this placental-specific antigen in the serum could be used as a specific serological method for early pregnancy diagnosis in cattle from 28 days after breeding.

L78 ANSWER 7 OF 56 MEDLINE

DUPLICATE 11

ACCESSION NUMBER: 87311435 MEDLINE

DOCUMENT NUMBER: 87311435 PubMed ID: 3625605
TITLE: Serological detection of early

TITLE: Serological detection of early pregnancy in

cattle and partial characterization of a serum glycoprotein

associated with early pregnancy.

AUTHOR: Klima F; Tiemann U; Pitra C; Kauffold P

SOURCE: JOURNAL OF REPRODUCTIVE IMMUNOLOGY, (1987 May) 11 (1) 31-9.

Journal code: 8001906. ISSN: 0165-0378.

PUB. COUNTRY: Netherlands

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: Priority Journals

ENTRY MONTH: 198710

ENTRY DATE: Entered STN: 19900305

Last Updated on STN: 19900305 Entered Medline: 19871015

AB Sera from heifers prior to artificial insemination (AI), 1-8 days after AI, and 7 days after embryo removal were investigated by crossed immunoelectrophoresis (CIE) by use of rabbit antiserum produced against bovine early pregnancy serum and intensively absorbed with non-pregnancy serum. One precipitation peak appeared in the alpha-globulin region when sera of non-pregnant heifers were under study. An additional peak could be demonstrated in the same region when sera of early pregnant heifers were investigated. By this method 91.5% of 71 sera samples were classified correctly to be pregnant or non-pregnant. The glycoprotein character of the above two serum components could be shown by binding to concanavalin A (Con A) in lectin affinity CIE. Relative molecular weights were estimated to be about 70,000 and 80,000 for the peptides of these two proteins applying sodium dodecyl sulfate polyacrylamide gel electrophoresis of precipitates cut out from CIE-plates. As shown previously close relation of this early pregnancy associated protein (EPAP) to the early pregnancy factor is supposed because of its characteristics and its ability to

affect cellular immunity.

L78 ANSWER 8 OF 56 MEDLINE

ACCESSION NUMBER: 95349003 MEDLINE

DOCUMENT NUMBER: 95349003 PubMed ID: 7623312

TITLE: Inhibin and activin in embryonic and fetal development in

ruminants.

AUTHOR: Jenkin G; McFarlane J; de Kretser D M

CORPORATE SOURCE: Department of Physiology, Monash University, Clayton,

Victoria, Australia. SOURCE:

JOURNAL OF REPRODUCTION AND FERTILITY. SUPPLEMENT, (1995)

49 177-86. Ref: 53

Journal code: 0225652. ISSN: 0449-3087. ENGLAND: United Kingdom

General Review: (REVIEW)

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

(REVIEW, ACADEMIC)

LANGUAGE: English

FILE SEGMENT: Priority Journals 199508

ENTRY MONTH:

PUB. COUNTRY:

Entered STN: 19950911

ENTRY DATE: Last Updated on STN: 19950911

Entered Medline: 19950828

Inhibin, activin and follistatin are protein hormones with diverse AR physiological roles. The involvement of inhibin in the regulation of

pituitary FSH production and secretion in adult males and non-pregnant females is well established. However, it is unlikely that inhibin plays a a high degree of structural similarity to potent growth and

similar role in pregnancy in ruminants. Inhibin and activin molecules show differentiation factors of the transforming growth factor beta (TGF-beta) superfamily of peptides and their localization in a range of embryonic and fetal tissues indicates that they may thus play a role in development. Furthermore, the demonstration that follistatin is also present in a number of embryonic and fetal tissues and fluids has further implications for the actions of activin to which it binds. The role of inhibin, activin and follistatin in early development has yet to be established since gene knockout experiments have so far proved inconclusive. During mid- and late gestation, high concentrations of inhibin are found in the testes and plasma of male fetuses of sheep and cattle. Inhibin may play a role in regulating pituitary FSH release in late pregnancy, but the very high concentrations of this hormone in ovine fetal testes and in male fetal plasma compared with that observed in the fetal ovary and female fetal plasma has yet to be explained. The recent observation of high concentrations of inhibin, activin and follistatin in amniotic fluid surrounding the fetus is intriguing. Excretion via urine or lung liquid is partly responsible for the presence of these proteins in amniotic fluid. The fetal membranes and the placenta are also possible sources. It remains to be established whether these proteins constitute an inactive pool of secreted hormone or whether they have other actions in this fetal

L78 ANSWER 9 OF 56 MEDITNE

compartment.

ACCESSION NUMBER: 95113492 MEDI-THE

DOCUMENT NUMBER: 95113492 PubMed ID: 7814074

TITLE: A role for cytokines in early pregnancy.

AUTHOR: Mathialagan N; Roberts R M

CORPORATE SOURCE: Department of Animal Sciences, University of

'Missouri-Columbia 65211.

CONTRACT NUMBER: HD 21896 (NICHD) SOURCE: INDIAN JOURNAL OF PHYSIOLOGY AND PHARMACOLOGY, (1994 Jul)

38 (3) 153-62, Ref: 92

Journal code: 0374707, ISSN: 0019-5499.

PUB. COUNTRY: India

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

General Review: (REVIEW) (REVIEW, TUTORIAL)

LANGUAGE: English

FILE SEGMENT: Priority Journals

ENTRY MONTH: 199502

ENTRY DATE:

Entered STN: 19950217

Last Updated on STN: 19950217 Entered Medline: 19950206

AB Cytokines are expressed in a variety of cell types of the reproductive system, although in most instances their functions are not understood. There are, however, a few instances where a role in early pregnancy has been established. First, preimplantation conceptuses of ruminant ungulate species, such as cattle, sheep and goat, secrete a unique Type I interferon (IFN-tau). By mechanisms that are still unclear, IFN-tau prevents the destruction of the corpus luteum and hence ensures the continued production of progesterone which is essential for continuation of pregnancy. Most like the IFN-tau prevent lutcolysis by modulating the output of a luteolytic hormone, prostaglandin F2 alpha, from the uterus. Depsite this involvement in pregnancy, the IFN-tau possess similar antiproliferative and antiviral activities to other Type I IFN, 1 lambda e.g. IFN-alpha. There are 4-5 genes for IFN-tau in sheep and cattle whose promotor regions are highly conserved and distinct from those of other Type I IFN. These genens are not virally inducible and are expressed only in the trophectoderm (outer epithelium of the developing placenta) from the time of blastocyst hatching to implantation. Leukemia inhibitory factor (LIF) is a multi-functional cytokine which is expressed by uterine endometrium of pregnant mice around day 4 of pregnancy. Female mice lacking a functional LIF gene are fertile but their blastocysts fail to implant, strongly implicating the cytokine in maternal control of implantation. Colony stimulating factors (CSF) are a family of proteins (GM-CSF, CSF-1, G-CSF, and IL-3) that stimulate the cellular proliferation and induction of terminal differentiation of hemopoietic progenitor cells. CSF-1 is expressed in the uterine endometrium of the mouse and human during early pregnancy and its receptor, fms, is present on trophoblast. The osteopetrotic mouse, which represents a natural "knockout" of the CSF-1 gene, exhibits a low rate of fetal implantation and poor fetal viability. It seems likely that CSF-1 expression by the uterus influences growth and differentiation of the placenta. Although different species may utilize different strategies for ensuring developmental and endocrinological coordination between the embryo and the mother, these three examples illustrate that cytokines are likely to be major participants as autocrine factors that direct the events of early pregnancy and not simply as modulators of the maternal immune system.

L78 ANSWER 10 OF 56 MEDLINE

ACCESSION NUMBER: 89306147 MEDLINE

DOCUMENT NUMBER: 89306147 PubMed ID: 2744224

TITLE: Inhibin mRNAs in ovine and bovine ovarian follicles and

corpora lutea throughout the estrous cycle and gestation.

Rodgers R J; Stuchbery S J; Findlay J K

Medical Research Centre, Prince Henry's Hospital,

Melbourne, Vic., Australia.

MOLECULAR AND CELLULAR ENDOCRINOLOGY, (1989 Mar) 62 (1)

95-101.

Journal code: 7500844, ISSN: 0303-7207.

Netherlands

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

AUTHOR:

SOURCE:

CORPORATE SOURCE:

PUB. COUNTRY:

FILE SEGMENT: Priority Journals

ENTRY MONTH: 198908

ENTRY DATE: Entered STN: 19900309

Last Updated on STN: 19900309

Entered Medline: 19890818

AB Follicles and corpora lutea were dissected from ovine and bovine ovaries and the RNA extracted and subjected to Northern blot analyses for alphaand beta A-inhibin mRNAs, using bovine cDNA and cRNA probes. A cDNA probe

detecting mRNA for cholesterol side-chain cleavage cytochrome P-450 (P-450scc) was used as a positive control. In cattle, alpha- and beta A-inhibin mRNAs were not detected in ovarian stroma, which could potentially have contained follicles up to 0.5 mm in diameter. Inhibin-alpha and -beta A mRNAs were detected in bovine antral follicles but after ovulation, the relative levels of alpha- and beta A-inhibin mRNAs declined and were undetectable in mature fully developed cyclic corpora lutea and in pregnancy corpora lutea from early to late gestation of the cow. In sheep, alpha- and beta A-inhibin mRNAs were detected in a pool of antral follicles but not in cyclic or pregnancy corpora lutea, which did contain P-450scc mRNA. It is concluded that in cattle and sheep, follicles and not mature corpora lutea are the ovarian source of inhibin.

L78 ANSWER 11 OF 56 MEDITINE.

ACCESSION NUMBER: 89062597 MEDITINE.

DOCUMENT NUMBER: 89062597 PubMed ID: 3196789

TITLE: Characterization of a high molecular weight glycoprotein

secreted by the peri-implantation bovine conceptus.

Newton G R; Hansen P J; Low B G AUTHOR:

CORPORATE SOURCE: Department of Dairy Science, University of Florida,

Gainesville 32611. HD20671 (NICHD) CONTRACT NUMBER:

SOURCE: BIOLOGY OF REPRODUCTION, (1988 Oct) 39 (3) 553-60.

Journal code: 0207224. ISSN: 0006-3363.

PUB. COUNTRY: United States

DOCUMENT TYPE: .Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English FILE SEGMENT:

Priority Journals

ENTRY MONTH: 198901 ENTRY DATE:

Entered STN: 19900308 Last Updated on STN: 19970203

Entered Medline: 19890118

AB Cow conceptuses were flushed from uteri on Day 17 of pregnancy and cultured with [3H]glucosamine and [14C]leucine. A high molecular weight glycoprotein (HMWG) having an Mr = 765,000 was isolated by a combination of anion-exchange and gel-filtration chromatography. Selective chemical and enzymatic degradations were performed. The HMWG was resistant to Pronase and peptide: N-glycanase F. Only endo-beta-galactosidase and harsh alkaline reducing conditions were successful in dissociating carbohydrate from the protein core, suggesting that carbohydrate chains are N-linked to Asn and contain beta-galactosidic linkages. The intact molecule could bind to an affinity column of Datura stramoniom lectin, suggesting the presence of beta(1-4)-linked oligomers of N-acetylglucosamine. The susceptibility of HMWG to endo-beta-galactosidase suggests that at least some of these oligomers are substituted with galactose to form N-acetyllactosamine. Binding of HMWG to lectin could be inhibited partially with N-acetyllactosamine or completely with a mixture of N, N'-diacetylchitobiose and N, N', N"-triacetylchitotriose. In summary, properties of the HMWG suggest it contains lactosaminoglycan components and is almost identical to an HMWG secreted by the Day 16 ovine conceptus. Thus, embryos of these two ruminant species secrete similar molecules during early pregnancy.

L78 ANSWER 12 OF 56 MEDLINE

ACCESSION NUMBER: 85226677 MEDLINE

DOCUMENT NUMBER: 85226677 PubMed ID: 3890969

TITLE: Immunosuppressive activity associated with early

pregnancy in the bovine.

AUTHOR: Fisher S J; Gimenez T; Henricks D M

SOURCE: BIOLOGY OF REPRODUCTION, (1985 May) 32 (4) 894-906. Journal code: 0207224. ISSN: 0006-3363. PUB. COUNTRY: United States

PUB. COUNTRY: United States

DOCUMENT TYPE: Journal: Article: (JOURNAL ARTIC

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals

ENTRY MONTH: 198508
ENTRY DATE: Entered STN: 19900320

Last Updated on STN: 19900320

Entered Medline: 19850812

AB Immunosuppressive activity was assessed in uterine flushings (UF) and uterine vein serum and plasma from nonpregnant and early -pregnant cows, and in media from the short-term culture of Day 18 bovine embryos. The preparations were tested for their ability to inhibit [3H] thymidine (3H-TdR) incorporation into phytohemagglutinin-stimulated bovine lymphocytes. On Days 2-3 (called Day 3), Days 9-10 (called Day 10), and Days 17-19 (called Day 18) of the estrous cycle (estrus = Day 0) and pregnancy, untreated and superovulated cows were anesthesized and jugular vein and uterine vein blood was collected. The uteri were removed and flushed to obtain UF and embryos. Uterine flushings were concentrated and tested for immunosuppressive activity at 400 micrograms uterine protein/ml culture fluid. Uterine flushings from both Day 18 pregnant and Day 18 nonpregnant cows were immunosuppressive (8/8), whereas Day 10 UF were usually not immunosuppressive (7/10). Day 3 UF were usually stimulatory or only marginally suppressive (8/8). Uterine vein serum and plasma from Day 18 cows were not suppressive when compared to jugular vein serum or plasma from the same cow; neither were Day 18 uterine vein serum or plasma suppressive when compared to those same samples taken from Day 3 cows. Embryo culture media obtained from the 48-h culture of Day 18 embryos was consistently suppressive. The activity was lost after dialysis in 1000-Mr cut-off tubing, removed by charcoal, and reduced by protease digestion. These results suggest two mechanisms whereby the embryo could escape immune rejection: 1) the progesterone-induced secretion of a uterine immunosuppressive substance(s) and 2) the production by the embryo of a low molecular weight immunosuppressive substance(s).

L78 ANSWER 13 OF 56 MEDLINE

ACCESSION NUMBER: 81051820 MEDLINE DOCUMENT NUMBER: 81051820 PubMed ID: 7001192

TITLE: Possible mechanism of success of an allotransplantation in

nature: mammalian pregnancy.

AUTHOR: Mukherjee A B; Laki K; Agrawal A K

MEDICAL HYPOTHESES, (1980 Oct) 6 (10) 1043-55.

Journal code: 7505668. ISSN: 0306-9877.

PUB. COUNTRY: ENGLAND: United Kingdom

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English
FILE SEGMENT: Priority Journals

SOURCE:

ENTRY MONTH:

198101

ENTRY DATE: Entered STN: 19900316 Last Updated on STN: 19900316

Last Updated on STN: 19900316 Entered Medline: 19810129

AB A new hypothesis is presented to explain the mechanism of non-rejection of a natural allograft: the mammalian fetus during early development. Using the rabbit as a model, it is proposed here that uteroglobin (UG., MM. 15,800) synthesized in the uterus during early pregnancy, crosslinks with beta 2-microglobulin (part of the H-2 and HL-A antigens) on the embryonic cell surface. This crosslinking is achieved by the enzyme transglutaminase (coagulation factor XIIIa), which has a 4--5 fold increased activity in the uterus during early pregnancy. The conversion of pre-uteroglobin (Pre-UG) to uteroglobin (UG) and pro-transglutaminase (factor XIII) to active transglutaminase (factor

XIIIa) is achieved by the concurrent increased activity of proteases present in the uterus at this time. UG is a dimeric protein with two alpha-helices running in parallel and connected by two disulfide bonds. We propose that UG molecules crosslink with beta 2-microglobulin in the presence of transglutaminase (factor XIIIa). A crosslinked beta 2-microglobulin-uteroglobin complex is formed which masks the H-2 or HL-A antigen of the implanting embryo. Thus, the maternal lymphocytes do not recognize the fetal cells as foreign. This mechanism may also explain the non-immunogenicity of ejaculated sperm in the uterus, as well as the non-immunogenicity of fetal cells found in the maternal circulation during pregnancy. At later stages of pregnancy, other proteins and/or hormones as well, may play a role in non-rejection of the fetus. However, the beta 2-microglobulin-uteroglobin complex masking the transplantation antigens of the embryo may be the major mechanism for immunological protection and non-rejection of the implanting embryo.

L78 ANSWER 14 OF 56 MEDILT NE.

ACCESSION NUMBER: 71283198 MEDLINE

DOCUMENT NUMBER: 71283198 PubMed ID: 5568279

TITLE: Protein electrophoretic pattern of bovine allantoic fluid

during early pregnancy. AUTHOR: Hamana K; Hafez E S

SOURCE: CORNELL VETERINARIAN, (1971 Jul) 61 (3) 375-80.

Journal code: 0074245. ISSN: 0010-8901.

PUB. COUNTRY: United States

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English FILE SEGMENT: Priority Journals

ENTRY MONTH: 197111

ENTRY DATE: Entered STN: 19900101

> Last Updated on STN: 19900101 Entered Medline: 19711105

L78 ANSWER 15 OF 56 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 5

ACCESSION NUMBER: 1999:614262 CAPLUS

DOCUMENT NUMBER: 131:225823

TITLE: Early pregnancy diagnosis using immunoassays for pregnancy-associated glycoproteins

INVENTOR(S): Roberts, Robert Michael; Green, Jonathan Andrew; Xie, Sancai

PATENT ASSIGNEE(S):

The Curators of the University of Missouri, USA SOURCE:

PCT Int. Appl., 136 pp. CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

PATENT NO.	KIND	DATE	A	PPLICAT:	ON NO.	DATE	
			-				
WO 9947934	A2	19990923	W	0 1999-t	JS6038	199903	19
WO 9947934	A3	20010719					
W: AE, AL	, AM, AT,	AU, AZ,	BA, BB,	BG, BR,	BY, CA	, CH, C	N, CU, CZ,
DE, DK	, EE, ES,	FI, GB,	GD, GE,	GH, GM,	HR, HU	, ID, I	L, IN, IS,
JP, KE	, KG, KP,	KR, KZ,	LC, LK,	LR, LS,	LT, LU	, LV, M	D, MG, MK,
MN, MW	, MX, NO,	NZ, PL,	PT, RO,	RU, SD,	SE, SG	, SI, S	K, SL, TJ,
TM, TR	, TT, UA,	UG, US,	UZ, VN,	YU, ZA,	ZW, AM	, AZ, E	Y, KG, KZ,
MD, RU	, TJ, TM						
RW: GH, GM	, KE, LS,	MW, SD,	SL, SZ,	UG, ZW,	AT, BE	, CH, C	Y, DE, DK,
ES, FI	, FR, GB,	GR, IE,	IT, LU,	MC, NL,	PT, SE	, BF, E	J, CF, CG,
CI, CM	, GA, GN,	GW, ML,	MR, NE,	SN, TD,	TG		

```
CA 2323812
                      AA
                           19990923
                                           CA 1999-2323812 19990319
     AU 9931028 A1 19991011 AU 1999-31028
EP 1141727 A2 20011010 EP 1999-912715
                                                              19990319
                                                            19990319
         R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, FI
PRIORITY APPLN. INFO.:
                                         US 1998-78783P A2 19980320
                                         US 1998-106188P A2 19981028
WO 1999-US6038 W 19990319
     Pregnancy-assocd. glycoproteins (PAGs) are structurally related
AB
     to the pepsins, thought to be restricted to the hoofed (ungulate) mammals
     and characterized by being expressed specifically in the outer epithelial
     cell layer (chorion/trophectoderm) of the placenta. By cloning expressed
     genes from ovine and bovine placental cDNA libraries, the inventors est.
     that cattle, sheep, and most probably all ruminant Artiodactyla, possess
     possibly 100 or more PAG genes, many of which are placentally
     expressed. The PAGs are highly diverse in sequence, with
     regions of hypervariability confined largely to surface-exposed loops.
     Selected PAG that are products of the invasive binucleate cells,
     expressed highly in early pregnancy at the time of
     trophoblast invasion and expressed weakly, if at all, in late gestation
     are useful in the early diagnosis of pregnancy. In a preferred
     embodiment, the invention relates to immunoassays for detecting these
     PAGs.
```

L78 ANSWER 16 OF 56 CAPLUS COPYRIGHT 2003 ACS ACCESSION NUMBER: 2002:965035 CAPLUS DOCUMENT NUMBER: 138:21822 TITLE: Determination of pregnancy status INVENTOR(S): Ott, Trov L. PATENT ASSIGNEE(S): USA SOURCE: U.S. Pat. Appl. Publ., 9 pp. CODEN: USXXCO

DOCUMENT TYPE: Patent LANGUAGE: English FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

```
PATENT NO. KIND DATE
                                    APPLICATION NO. DATE
                    ----
                                         -----
    US 2002192838 A1 20021219 US 2002-166929 20020610 WO 2002103352 A1 20021227 WO 2002-US18479 20020610
        W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
            CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
            GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
            LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,
            PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ,
            UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU,
            TJ, TM
        RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH,
            CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR,
            BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
PRIORITY APPLN. INFO.:
                                      US 2001-299553P P 20010619
    A method and kit for detg. whether an animal is not pregnant, or is
    pregnant following a breeding. The level of expression of a pregnancy
    induced protein is detd. in an animal for which pregnancy status
    information is desired and the level is compared to that of the level in
    animals that are not pregnant.
```

L78 ANSWER 17 OF 56 CAPLUS COPYRIGHT 2003 ACS ACCESSION NUMBER: 2002:424853 CAPLUS DOCUMENT NUMBER: 138:119484

TITLE:

Comparison of the ability of three radioimmunoassay to detect pregnancy-associated glycoproteins in bovine

AUTHOR(S):

Perenyi, Z. S.; Szenci, O.; Sulon, J.; Drion, P. V.;

Beckers, J. F.

CORPORATE SOURCE:

Department of Physiology of Reproduction, University

of Liege, Liege, Belg.

SOURCE:

Reproduction in Domestic Animals (2002), 37(2),

100-104

CODEN: RDANEF; ISSN: 0936-6768

PUBLISHER: Blackwell Verlag GmbH

DOCUMENT TYPE: Journal

LANGUAGE: English

Pregnancy-assocd. glycoproteins (PAGs) constitute a large family of glycoproteins that are synthesized in the superficial layer of the ruminant placenta according to a spatial and temporal expression pattern. When PAGs are released in the maternal blood they can be used for pregnancy diagnosis, pregnancy follow-up and for the monitoring of the trophoblastic function. Three different RIA systems (RIA 1, RIA 2 and RIA 3) using antisera produced against PAG 167 (RIA 1), PAG55 + 62

(RIA 2) and PAG55 + 59 (RIA 3) were used in this investigation in order to measure the PAG concn. in plasma samples withdrawn from pregnant cows and heifers during different periods following artificial

insemination (AI). These systems were able to detect PAG mols. in the maternal blood as early as 21 days after AI in different concns. (RIA 1: 0.43 .+-. 0.24 ng/mL, mean .+-. SD; RIA 2: 0.48 .+-. 0.24 ng/mL; RIA 3: 0.64 .+-. 0.37 ng/mL). On days 32 and 42 RIA 2 (4.30 .+-. 1.32 ng/mL and 5.56 .+-. 1.95 ng/mL) and RIA 3 (4.17 .+-. 1.15 ng/mL and 5.60 .+-. 1.89 ng/mL) presented significantly (p < 0.0001) higher PAG concns. than those of RIA 1 (2.43 .+-. 0.81 ng/mL and 4.01 .+-. 1.48 ng/mL), resp. After day 21, significant correlations (p < 0.0001; r

.gtoreq. 0.929) were detd. between the three systems. Addnl. the three individual PAG profiles presented in this study showed that PAG mols. secreted in the maternal blood between 21 and 50 days after AI were better recognized by the RIA 2 and RIA 3 systems.

study clearly indicated that the ability of a RIA test to recognize PAG mols. in the maternal blood can be improved by carefully

selecting the antiserum. REFERENCE COUNT:

THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L78 ANSWER 18 OF 56 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1999:11196 CAPLUS

DOCUMENT NUMBER: 130:180431 TITLE:

Pregnancy-specific protein B induces release of an alpha chemokine in bovine endometrium

AUTHOR(S): Austin, Kathy J.; King, Cathy P.; Vierk, Judith E.;

Sasser, R. Garth; Hansen, Thomas R. CORPORATE SOURCE: Reproductive Biology Program, Department of Animal

Science, University of Wyoming, Laramie, WY, 82071,

SOURCE: Endocrinology (1999), 140(1), 542-545 CODEN: ENDOÃO; ISSN: 0013-7227

Endocrine Society

PUBLISHER: DOCUMENT TYPE: Journal

LANGUAGE: English

Pregnancy-specific protein B (PSPB), is secreted from binucleate trophoblast of the bovine conceptus as early as day 15 of pregnancy. The objective of this expt. was to det. if PSPB induced uterine proteins. PSPB was purified from day 120 cotyledons using antibody-based affinity chromatog. Endometrium from day 14 non-pregnant cows (n = 3) was prepd.

for explant (3H-Leu added) culture. Radiolabeled proteins released into medium were dialyzed, sepd. using 1D-PAGE, and detected using fluorog, and densitometry. PSPB (0, 0.5, 5, 25 & 50 mM) caused a concn.-dependent increase in the release of a radiolabeled 8-kba uterine protein. Western blots revealed that the 8-kDa protein cross-reacted with antibody against granulocyte chemotactic protein-2 (GCP-2). PSPB also induced release of GCP-2 by bovine endometrial (BEND) cells in primary culture. The induction of GCP-2 by PSPB was blocked by addn. of antiserum against PSPB (1:4 molar ratio). This is the first indication that PSPB has a hormonal role in inducing GCP-2, an alpha chemokine that also is induced by interferon-tau during early pregnancy.

This chemotactic cytokine may be integral to mediating adhesion, inflammation and angiogenesis assocd. with early implantation. REFERENCE COUNT: THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS 25

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L78 ANSWER 19 OF 56 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1998:556385 CAPLUS

DOCUMENT NUMBER: 129:311432

TITLE: Expression of multiple genes for pregnancy-associated

glycoproteins in the sheep placenta AUTHOR (S):

Xie, Sancai; Green, Jonathan; Roberts, R. Michael CORPORATE SOURCE: Departments of Animal Science, University of

Missouri-Columbia, Columbia, MO, 65211, USA

SOURCE: Advances in Experimental Medicine and Biology (1998),

436(Aspartic Proteinases), 195-200

CODEN: AEMBAP; ISSN: 0065-2598 Plenum Publishing Corp. PUBLISHER:

DOCUMENT TYPE: Journal

LANGUAGE: English

Bovine pregnancy-assocd. qlycoprotein 1 (boPAG1), also known as pregnancy-specific protein B was initially identified as a unique placental antigen in cattle by raising antisera against total placental proteins in rabbits. Serol. similar antigens have also been found in sheep and other ruminant ungulates. Mol. cloning showed that bo- and ovine (ov) PAG1 belong to the superfamily of aspartic proteinases, but appear to be enzymically inactive due to key mutations around the catalytic site regions. Soon after the initial cloning of ov- and boPAG1, several other PAG were identified. Here, we attempt to est, the no. of PAG-related genes and their products in the ovine placenta. The results of our expts. show that there are many PAG genes in the ovine genome and many of these are expressed in the placenta.

L78 ANSWER 20 OF 56 CAPLUS COPYRIGHT 2003 ACS ACCESSION NUMBER: 1996:114058 CAPLUS

DOCUMENT NUMBER: 124:143308 TITLE: Ubiquitin cross-reactive protein is released by the

bovine uterus in response to interferon during

early pregnancy

Austin, Kathy J.; Ward, Stephanie K.; Teixeira, AUTHOR (S):

Glaucia; Dean, Victoria C.; Moore, David W.; Hansen, Thomas R. Department of Animal Science, University of Wyoming,

CORPORATE SOURCE: Laramie, WY, 82071, USA

SOURCE: Biology of Reproduction (1996), 54(3), 600-6

CODEN: BIREBV: ISSN: 0006-3363

PUBLISHER: Society for the Study of Reproduction

DOCUMENT TYPE: Journal LANGUAGE: English

A 16-kDa protein has been identified that is secreted by the bovine endometrium in response to conceptus-derived interferon (IFN) - .tau. during

early pregnancy. Because this uterine protein was similar in size to a human ubiquitin cross-reactive protein (hUCRP) that also was regulated by IFN, the authors suspected that they might be related. To test this hypothesis, uterine flushings, medium from cultured endometrium, and endometrial tissues were examd, for the presence of ubiquitin-immunoreactive proteins. Immunoreacting proteins were detected through use of 1-dimensional (1D)-PAGE and Western blotting with ubiquitin and hUCRP antiserum (1:500). A 16-kDa protein that cross-reacted with ubiquitin and hUCRP antisera was released by the endometrium and was present in uterine flushings from all day 18 pregnant females examd. The immunoreacting 16-kDa protein was absent in all nonpregnant females examd. Regulation of this uterine protein by recombinant type I IFNs (rbIFN-.tau., rbIFN-.alpha., and roIFN-.tau.), using 0, 0.5, 5, and 25 nm of each IFN, was evaluated in nonpregnant (day 12) heifers using 1D-PAGE and Western blotting. Release of the 16-kDa protein into medium was negligible in controls (0 nm IFN). For each IFN, a dose-dependent increase in release of the immunoreacting 16-kDa protein was noted. Thus, the 16-kDa protein that is produced by the endometrium in response to IFN-.tau. during early pregnancy also shares epitopes with hUCRP and ubiquitin. The 16-kDa protein has been named bovine UCRP.

L78 ANSWER 21 OF 56 CAPLUS COPYRIGHT 2003 ACS 1994:267773 CAPLUS

ACCESSION NUMBER: DOCUMENT NUMBER:

120:267773

TITLE:

Bovine early pregnancy factor: its characterization and an attempt to produce anti-bovine

AUTHOR(S):

EPF antibody Ito, Kazuei; Yasuda, Yasuhisa

CORPORATE SOURCE:

Fac. Agric., Iwate Univ., Morioka, 020, Japan Journal of Reproduction and Development (1993), 39(4),

SOURCE:

309-17 CODEN: JREDEF; ISSN: 0916-8818

DOCUMENT TYPE:

Journal English

LANGUAGE:

In a previous study, the authors suggested that bovine EPF had a mol. wt. of 21.5 kDa because a 21.5 kDa polypeptide was not found in the nonpregnant serum, and the isoelec. point was near 5.0 by 2D SDS-PAGE using non-equil. pH gradient electrophoresis. The authors extended the study to characterize the biochem. nature of purified bovine EPF. As a result, the isoelec. point of bovine EPF turned out to be 6.3 by 2D SDS-PAGE using isoelec. focusing. Also, the purified EPF was not reduced by the addn. of 2-mercaptoethanol, indicating that bovine EPF is a monomeric peptide. Amino acid anal. of EPF was attempted, but a definitive sequence could not be confirmed. In the present study, the crude anti-EPF IgG fraction was purified by adsorption with CNBr-activated Sepharose 4B coupled with nonpregnant bovine whole serum. The purified anti-EPF IgG decreased the rosette inhibition titer of pregnant serum from 6 to 3. The Sepharose 4B affinity column coupled with anti EPF-IgG effectively isolated the EPF from pregnant bovine serum.

L78 ANSWER 22 OF 56 CAPLUS COPYRIGHT 2003 ACS 1993:36604 CAPLUS

ACCESSION NUMBER: DOCUMENT NUMBER:

118:36604

TITLE:

Characterization and immunolocalization of bovine

uterine retinol-binding protein AUTHOR(S): Liu, Kaung H.; Godkin, James D. CORPORATE SOURCE: Dep. Anim. Sci., Univ. Tennessee, Knoxville, TN,

37901, USA

SOURCE:

Biology of Reproduction (1992), 47(6), 1099-104

CODEN: BIREBY: ISSN: 0006-3363

DOCUMENT TYPE: Journal LANGUAGE: English

Endometrial explants obtained from cows on days 13-29 of pregnancy were cultured for 24 h in modified min. essential medium in the presence of [35S]methionine or [3H]leucine. Proteins synthesized and released into medium were analyzed by 2-dimensional PAGE and fluorog. Uterine luminal flushings were obtained from cyclic cows (days 2-20 of estrous cycle) and early pregnant cows (days 17-22). Endometrial tissues from cows on days 17 and 29 of pregnancy were prepd. for immunocytochem. A uterine secretory protein, which consisted of 5 isoelec. variants (pI 5.3-6.1) of identical mol. mass (23,000 Da), reacted immunol. with antiserum raised against bovine placental retinol-binding protein (bpRBP). Limited N-terminal sequence anal. of 2 major isoforms showed that the protein had nearly complete homol. with bovine placental and plasma retinol-binding protein (RBP) over the 1st 25 amino acids. Through use of bpRBP antiserum, immunoreactive RBP was detected in uterine flushings collected from cows in the late luteal phase of the estrous cycle and early pregnancy by Western blotting, and in medium conditioned by uterine explants prepd. at days 13-29 of pregnancy by immunopptn. Immunoreactive RBP was localized in endometrial surface and glandular epithelium on days 17 and 29 of pregnancy by immunocytochem. These results demonstrate that RBP is a product of bovine uterine tissues. The uterine RBP may play an important role in vitamin A transport between maternal tissues and developing embryos.

L78 ANSWER 23 OF 56 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: DOCUMENT NUMBER:

1994:294959 CAPLUS 120:294959

TITLE:

Bovine early pregnancy factor: purification and biochemical examination

AUTHOR(S):

DOCUMENT TYPE:

Ito, Kazuei; Yasuda, Yasuhisa

CORPORATE SOURCE: Fac. Agric., Iwate Univ., Morioka, 020, Japan SOURCE:

Journal of Reproduction and Development (1992), 38(6),

j39-j48

CODEN: JREDEF; ISSN: 0916-8818

Journal

LANGUAGE: Japanese The isolation and purifn, of early pregnancy factor

(EPF) in the serum of pregnant bovine is described. The serum of 10.4L was obtained from a pregnant bovine of 8 days after artificial insemination. The rosette inhibition titer (RIT) of the serum was 6. EPF was isolated using the diafiltration, ion-exchange chromatog. (CM-Sepharose, DEAE-Sepharose) and FPLC-gel permeation chromatog. EPF active fraction was recognized in the elute (RIT = 7) of 50 mM NaCl on the CM-Sepharose and the unadsorbed fraction (RIT .qtoreq.8) on the DEAE-Sepharose. The unadsorbed fraction of DEAE-Sepharose had 4 bands by SDS-PAGE anal. The mol. wts. of 4 bands were 23, 22, 21.5, and 21 kDa resp. Further, the fraction No. 32 of the FPLC had a high EPF

activity (RIT .gtoreq.8) and the mol. wt. of this fraction was estd. as 21.apprx.22 kDa. The isoelec. point of EPF was .apprx.5.0 by 2D-SDS-PAGE anal.

L78 ANSWER 24 OF 56 CAPLUS COPYRIGHT 2003 ACS ACCESSION NUMBER: 1988:623277 CAPLUS

DOCUMENT NUMBER: 109:223277

TITLE: Heat stress-induced alterations in the synthesis and · secretion of proteins and prostaglanding by cultured

bovine conceptuses and uterine endometrium

AUTHOR(S): Putney, D. J.; Malayer, J. R.; Gross, T. S.; Thatcher,

W. W.; Hansen, P. J.; Drost, M.

CORPORATE SOURCE: Inst. Food Agric, Sci., Univ. Florida, Gainesville, SOURCE:

FL. 32611. USA

Biology of Reproduction (1988), 39(3), 717-28

CODEN: BIREBV; ISSN: 0006-3363

DOCUMENT TYPE: LANGUAGE ·

Journal English

The effect of in vitro heat stress on protein and prostaglandin synthesis and secretion by bovine conceptuses and endometrium was examd. Conceptuses and endometrium obtained on Day 17 of pregnancy were cultured at thermoneutral (39.degree., 24 h) or heat stress (39.degree., 6h; 43.degree., 18 h) temps. in medium supplemented with L-[4,5-3H]leucine (100 .mu.Ci) and arachidonic acid (10 .mu.g/mL). Radiolabeled protein secreted into the culture medium increased with time in both groups. Heat stress reduced the incorporation of [3H]leucine into intracellular and secreted proteins by conceptuses but did not alter the incorporation of [3H]leucine by endometrium. In particular, heat stress reduced by 72% the secretion of bovine trophoblast protein-1, the conceptus polypeptide believed to cause extension of the luteal lifespan. Two-dimensional, SDS-PAGE indicated that heat stress altered the array of proteins in endometrial and conceptus tissues, as evidenced by the induction of heat-shock proteins. Endometrial secretion of prostaglandin F and conceptus secretion of PGE2 increased in response to heat stress. The sensitivity of bovine conceptuses and endometrium to heat stress in vitro suggests that infertility assocd. with maternal heat stress may be caused, partially, by alterations in signals required for maintenance of the

L78 ANSWER 25 OF 56 CAPLUS COPYRIGHT 2003 ACS ACCESSION NUMBER: 1988:202285 CAPLUS

corpus luteum during early pregnancy.

DOCUMENT NUMBER:

108:202285

TITLE: AUTHOR(S):

SOURCE:

Characterization of bovine conceptus

proteins produced during the peri- and postattachment of early pregnancy

Godkin, James D.; Lifsey, Ben J., Jr.; Gillespie,

Barbara E.

CORPORATE SOURCE: Dep. Anim. Sci., Univ. Tennessee, Knoxville, TN,

37901-1071, USA

Biology of Reproduction (1988), 38(3), 703-11

CODEN: BIREBV; ISSN: 0006-3363

DOCUMENT TYPE: Journal

LANGUAGE:

English Bovine conceptuses removed from the uterus during the peri- and postattachment periods of placentation (days 17-24 and 26-38, resp.) were cultured in a modified min. essential medium in the presence of L-[3H]leucine to characterize in vitro synthesis of proteins released into the medium. Patterns of protein prodn. were analyzed by 2-dimensional PAGE followed by fluorog. of dried gels. Four groups of low-mol.-wt. acidic proteins (LMWAP) were obsd. to be synthesized during the peri- and postattachment periods. The no. and relative concn. of these changed with development. One group (A) consisted of 3 major and .gtoreq.2 minor isoelec. species (pI .simeq. 5.8-6.8); these were the major synthesized proteins obsd. from days 17-22. The major polypeptides of group A were present at all time points examd. through day 38 and, in several prepns., appeared as doublets [mol. wt. (Mr) .simeq. 22,000 and 24,000] through day 29 but not thereafter. Group A polypeptides from day-19 and -36 conceptus cultures were demonstrated by immunoblot anal. to cross-react with antiserum produced against ovine trophoblast protein-1. A 2nd group of proteins (Al) and a single protein (B) in the 20,000-24,000-Mr range were obsd. between days 17 and 22. These were acidic relative to group A and were not detected after day 22. A 4th group (C) of LMWAP (Mr .simeq. 14,000-18,000) was first obsd. around day 21 and appeared to increase relative to group A through day 29. One

protein from this group, C3, was the predominant LMWAP at day 38. Prodn. of numerous proteins in the 30,000-70,000-Mr range (group E) was first obsd. between days 21 and 24. Three of these, E7, E8, and E9, were acidic [pI .simeq. 5.0-5.8), with apparent mol. wts. of 30,000-45,000, and became prominent secretory products around day 29 and times thereafter. A very large (Mr >200,000) acidic (pI <4.5) protein was present from day 17 through at least day 29, and several large (Mr .gtoreq.100,000) were obsd. around day 24 and afterwards. Group A proteins have been referred to as bovine trophoblast protein-1 and implicated in events assocd. with maternal recognition of pregnancy. The present study is the first to demonstrate continued prodn. of these products beyond day 24, and to report qual. changes obsd. in bovine conceptus protein synthesis during the early postattachment period.

L78 ANSWER 26 OF 56 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1989:1162 CAPLUS

DOCUMENT NUMBER: 110:1162

TITLE: Evidence for maternal regulation of early conceptus growth and development in beef

cattle

AUTHOR(S): Garrett, J. E.; Geisert, R. D.; Zavy, M. T.; Morgan,

G. L.
CORPORATE SOURCE: Anim. Sci. Dep., Oklahoma State Univ., Stillwater, OK,

74078, USA

SOURCE: Journal of Reproduction and Fertility (1988), 84(2),

437-46

CODEN: JRPFA4; ISSN: 0022-4251

DOCUMENT TYPE: Journal LANGUAGE: English

AB The effects of progesterone administration on conceptus development,

survival, and uterine endometrial secretion during early pregnancy in cattle was investigated. Fifty-one cyclic beef cows were mated with fertile bulls. At 36 h after the start of estrus, cows were assigned to receive sesame oil (controls) or progesterone (100 mg) on days 1, 2, 3, and 4 of pregnancy. The peripheral plasma concn. of progesterone was measured until slaughter on days 5 or 14. Cows were randomly assigned to be slaughtered on days 5 or 14 or remain intact and palpated per rectum on day 40 to verify pregnancy. Uteri on days 5 and 14 were flushed for recovery of luminal protein and conceptus tissue. Conceptus and endometrial tissues were cultured with [3H]leucine and submitted to 2-dimensional-PAGE and fluorog. Administration of progesterone increased peripheral plasma progesterone concn. on day 2-5. Conceptuses recovered from progesterone-treated cows on day 14 were advanced in development compared to conceptuses from control cows. Conceptuses recovered from progesterone-treated cows were viable as polypeptides assocd. with maintenance of pregnancy in cattle were synthesized and released at an earlier time and pregnancy was maintained beyond day 40. Early progesterone stimulation altered the synthesis and release of polypeptides from endometrial explant cultures on day 5. Apparently, progesterone plays a role in the maternal regulation of conceptus growth and development in early pregnancy of cattle.

L78 ANSWER 27 OF 56 CAPLUS COPYRIGHT 2003 ACS ACCESSION NUMBER: 1985:128366 CAPLUS

ACCESSION NUMBER: 1985:12836 DOCUMENT NUMBER: 102:128366

TITLE: Antigen associated with

INVENTOR(S):

PATENT ASSIGNEE(S):

Idaho Research Foundation, Inc., USA

SOURCE: Eur. Pat. Appl., 12 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

AB

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 132750	A1	19850213	EP 1984-108365	19840716
EP 132750	B1	19900404		,
R: AT, BE,	CH, DE,	FR, GB,	IT, LI, LU, NL, SE	
US 4554256	A	19851119	US 1983-516173	19830721
AU 8430708	A1	19850124	AU 1984-30708	19840716
AU 567747	B2	19871203		
CA 1235657	A1	19880426	CA 1984-458998	19840716
AT 51709	E	19900415	AT 1984-108365	19840716
US 4705748	A	19871110	US 1985-794932	19851104
PRIORITY APPLN. INFO	. :		US 1983-516173	19830721
			EP 1984-108365	19840716

Early pregnancy in mammals, esp. farm animals and pets, is diagnosed by the detection of protein B, a placental membrane-assocd. protein of mol. wt. 47,000-53,000 and pI .apprx.4.0-4.4, in, e.g., milk, urine, and esp. serum by. e.g., double-antibody RIA. Thus, protein B was obtained from placental membranes of dairy and beef cows by homogenization, (NH4)2SO4 pptn., anion-exchange chromatog, on DEAE-cellulose, and gel chromatog, on Bio-Gel A 0.5m. Purified protein B was conjugated to tetanus toxoid for the prodn. of antisera in rabbits and radioiodinated with 12SI for the prepn. of label. The 2nd antibody was sheep antirabbit .gamma.-globulin antiserum. In beef cows, the RIA for protein B agreed with the diagnosis by rectal palpation in 90 of 102 cases. The cut off for a pos. preqnancy test should be at least 0.15 ng and preferably at least .apprx.0.25 ng protein B/mL.

L78 ANSWER 28 OF 56 CAPLUS COPYRIGHT 2003 ACS ACCESSION NUMBER: 1982:1089 CAPLUS

ACCESSION NUMBER: 1982:10: DOCUMENT NUMBER: 96:1089

TITLE: Effects of the estrous cycle and early pregnancy on bovine uterine, luteal, and

follicular responses

AUTHOR(S): Bartol, F. F., Thatcher, W. W.; Bazer, F. W.; Kimball, F. A.; Chenault, J. R.; Wilcox, C. J.; Roberts, R. M. CORPORATE SOURCE: Coll. Med., Univ. Florida, Gainesville, FL, 32611, USA SOURCE: Biology of Reproduction (1981). 25(4). 759-76

Biology of Reproduction (1981), 25(4), 759-76 CODEN: BIREBV; ISSN: 0006-3363

DOCUMENT TYPE: Journal

LANGUAGE: English
AB Uterine, luteal, and follicular responses assocd with the estrous cycle

and early pregnancy in cattle were examd. Dairy and beef cattle were slaughtered either on day 4, 8, 12, 14, 16, or 19 postestrus (estrus = day 0). Corpus luteum (CL) wt., specific PGF2.alpha. [551-11-1] binding by the luteal particulate fraction (100,000 g pellet), in vitro estradiol (I) [50-28-2] prodn. by the 2 largest follicles, total recoverable uterine luminal protein (TP), total recoverable immunoreative uterine luminal PGF (TPGF), and peripheral plasma steroids were evaluated. In a parallel study, beef cattle were slaughtered either on day 8, 12, 14, 16, or 19 of pregnancy for measurements of TP, TPGF, and plasma steroids. Uterine luminal proteins, from cyclic and pregnant cattle (day 19), were subjected to SDS polyacrylamide gel electrophoresis (SDS-PAGE) for detn. of protein mol. wts. and protein profile characterization. In cyclic cattle, CL regression was not completed by day 19. Follicle I secretion varied among animals within single day (4.0-24.0 ng

I/follicle/3.5~h);~but~not~among~several~days.~Total~PGF2.alpha.~binding~(fmol/CL)~for~days~4,~8,~12,~14,~16,~and~19~was~14.29,~145.79,~177.34,111.82, 174.51, and 199.17 resp. TPGF varied among cycle days 4 (14.4 ng), 8 (13.9 ng), 12 (19.7 ng), 14 (47.7 ng), 16 (17.4 ng), and 19 (111.0 ng). In contrast, TPGF from pregnant cattle was 481.6 and 1187.8 ng on day 16 and 19. TP (mg) in cyclic cattle varied among days 4 (7.34), 8 (7.03), 12 (4.14), 14 (15.92), 16 (5.88), and 19 (11.35). Mean TP (mg) for pregnant cattle ranged 2.73-12.09. Thirty-two protein categories were identified in cyclic cattle uterine flushings by SDS-PAGE (apparent mol. wt. range .times. 10-3 = 18.7-292.0). Proteins appeared with greater frequency later in the cycle than earlier (days 14, 16, 19: 60% vs. days 4; 8, 12: 45%). Composite SDS-PAGE profiles from days 8-12 and days 14-16 differed, suggesting luteal phase stimulation of protein secretion. Protein profiles (SDS-PAGE) from day 19 of pregnancy differed from day 19 of the estrous cycle, resembled those of midluteal phase, and revealed 4 protein constituents possibly unique to early pregnancy. Thus, uterine luminal PGF increased with luteal phase of the estrous cycle at a time when there appeared to be a stable population of specific PGF2.alpha. binding sites in the CL. Higher PGF in utero at days 16 and 19 of pregnancy and changes in TP and SDS-PAGE protein profiles may reflect responsiveness of endometrium to changes in ovarian status (cyclic) and(or) conceptus activity (pregnancy comparisons).

L78 ANSWER 29 OF 56 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V. DUPLICATE 4

ACCESSION NUMBER: 2000398143 EMBASE TITLE:

Caprine pregnancy-associated glycoproteins (PAG): Their cloning, expression, and evolutionary relationship to

other PAG.

Garbayo J.M.; Green J.A.; Manikkam M.; Beckers J.-F.;

AUTHOR:

Kiesling D.O.; Ealy A.D.; Roberts R.M.

CORPORATE SOURCE: R.M. Roberts, Department of Animal Sciences, University of

Missouri, 158 ASRC, Columbia, MO 65211, United States.

RobertsRM@missouri.edu

SOURCE: Molecular Reproduction and Development, (2000) 57/4

(311-322).

Refs: 42

ISSN: 1040-452X CODEN: MREDEE

COUNTRY: United States

DOCUMENT TYPE: Journal; Article FILE SEGMENT:

010 Obstetrics and Gynecology

021 Developmental Biology and Teratology

029 Clinical Biochemistry

LANGUAGE: English SUMMARY LANGUAGE: English

Pregnancy-associated glycoproteins (PAG) are structurally related to aspartic proteinases and belong to an extensive, rapidly evolving family of recently duplicated genes expressed in the placentas of artiodactyl species. The aim of the present study was to clone PAG from the goat, study their temporal and cell-specific expression, and determine their phylogenetic relationship to PAG from other species. RT-PCR was used to generate PAG cDNA from pooled placental RNA obtained between days 45 and 115 of pregnancy. A total of 11 cDNA, which differed by > 5% from each other, were selected for complete bidirectional sequencing from 60 clones analyzed. A group of nine (caPAG1, caPAG3-7(van) caPAG9-11), which displayed >80% sequence identity with each other, were expressed after day 45 of pregnancy and were localized to trophoblast binucleate cells. These PAG demonstrated an unusually high ratio of nonsynonymous (amino acid changing) to synonymous nucleotide differences. CaPAG2, by contrast, was detectable only in early pregnancy (days 18 and 19) and expressed throughout trophectoderm. It was of more ancient origin than the PAG1 group, but more recent than caPAG8. The latter was expressed at all stages examined (days 18 to 115). The data confirm that many PAG genes, with different patterns of temporal and spatial expression, are transcribed in the placenta of the goat. The data also suggest that the recently duplicated PAG genes are being selected for rapid diversification of function. (C) 2000 Wiley-biss, Inc.

L78 ANSWER 30 OF 56 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.DUPLICATE 8 ACCESSION NUMBER: 96070337 EMBASE

DOCUMENT NUMBER: 1996070337

TITLE: Sulfated glycoprotein-1 (SGP-1) expression in ovine endometrium during the oestrous cycle and early

pregnancy.

AUTHOR: Spencer T.E.; Graf G.H.; Bazer F.W.

CORPORATE SOURCE: Dept. of Animal Science, Center for Animal Biotechnology,
Texas A and M University, College Station, TX 77843-2471,

United States

SOURCE: Reproduction, Fertility and Development, (1995) 7/5 (1053-1060).

ISSN: 1031-3613 CODEN: RFDEEH
COUNTRY: Australia

DOCUMENT TYPE: Journal; Article

FILE SEGMENT: 021 Developmental Biology and Teratology

029 Clinical Biochemistry

LANGUAGE: English SUMMARY LANGUAGE: English

AB This study determined effects of day of oestrous cycle and early pregnancy on sulfated glycoprotein-1 (SGP-1) expression in ovine

endometrium. A 364-bp clone of the ovine SGP-1 mRNA was amplified from reverse transcribed Day-15 cyclic endometrial mRNA using the polymerase chain reaction (PCR) and primers specific for the rat SGP-1 mRNA sequence. Nucleotide sequence of the ovine SGP-1 cDNA shared significant identity with rat SGP-1 and human prosaposin. Ewes (n = 40) were hysterectomized on either Day 1, 6, 11, 13 or 15 of the oestrous cycle or on Day 11, 13, 15, 17 or 25 of early premancy. Total cellular RNA was

isolated from endometrium and subjected to Northern and slot blot hybridization analyses using an antisense cRNA probe transcribed from the owine SGP-1 cDNA clone. A single 2.6-kb mRNA transcript was detected by Northern hybridization analyses. Slot blot hybridization analyses indicated that steady-state levels of endometrial SGP-1 mRNA varied during the oestrous cycle (cubic, P < 0.02) and increased between Day 11 and Day

25 of early pregnancy (linear, P < 0.01). On Days 11, 13 and 15, endometrial SGP-1 mRNA levels were greater in pregnant ewes than in cyclic ewes (day x pregnancy status, P < 0.01). Immunohistochemical localization of SGP-1 in uterine tissues with rabbit

anti-rat SGP-1 antibody revealed intense immunoreactivity associated primarily with the endometrial epithelium. These results indicate that the owine endometrium expresses SGP-1, a prosaposin, and that SGP-1 expression varies during the cestrous cycle and is enhanced by the conceptus. The presence ot SGP-1 in the endometrium suggests intracellular and extracellular roles for this protein in glycosphingolipid metabolism or

transport in the uterine environment.

L78 ANSWER 31 OF 56 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.DUPLICATE 9 ACCESSION NUMBER: 93056006 EMBASE

DOCUMENT NUMBER: 1993056006

TITLE: An estrogen-dependent glycoprotein is synthesized and

released from the oviduct in a temporal- and region-specific manner during early

pregnancy in the ewe.

AUTHOR: Murray M.K.

CORPORATE SOURCE: Anatomy/Cellular Biology Department, Tufts University, 136

Harrison Avenue, Boston, MA 02111, United States SOURCE: Biology of Reproduction, (1993) 48/3 (446-453).

ISSN: 0006-3363 CODEN: BIREBV

COUNTRY . United States DOCUMENT TYPE: Journal; Article

FILE SEGMENT: 003 Endocrinology

021 Developmental Biology and Teratology

029 Clinical Biochemistry LANGUAGE: English

SUMMARY LANGUAGE: English

Administration of estradiol-17.beta. (E) to ovariectomized (ovx) sheep results in the synthesis and release of an M(r) 90 000-92 000 glycoprotein into the oviductal lumen and into culture medium of ampullar explants (Biol Reprod 1992; 47:889-902). The objective of this study was to determine when and from what region of the oviduct the M(r) 90 000-92 000 glycoprotein is synthesized and released during early pregnancy. Estrous ewes were bred to intact rams of known fertility, and oviducts were obtained at estrus (Day 0) and at Days 1.5, 2, 3, 4, 6, and 16 of pregnancy. Pregnancy was verified by the presence of

a fertilized egg or developing conceptus and a functional corpus luteum. Oviductal secretions were collected by flushing oviducts with saline and by explant culture. The oviductal fimbria, ampulla, and isthmus were individually cultured (24 h) in the presence of 3H-leucine (3H-leu) or 3Hglucosamine (3H-glcN). The presence of the M(r) 90 000-92 000 glycoprotein in oviductal flushings and culture medium was determined by fluorography and Western blotting. The M(r) 90 000-92 000 protein was present in SDS gels and blots of oviductal flushings from animals through Days 4-6 of pregnancy, but not in flushings from Day 16 pregnant animals or from ovx, untreated animals. This protein was present in 3H-leu- and 3H-qlcN-labeled culture medium of the oviductal ampulla (Days 0, 1.5, 2, 3, 4, 6, and 16) and fimbria (Days 0, 1.5, 2, 3, and 4) during early

pregnancy. The M(r) 90 000-92 000 protein was not detected in oviductal ampulla or fimbria culture medium obtained from ovx animals, nor was it present in culture medium of the isthmus oviduct obtained from estrous and pregnant animals. These data show that the E-dependent M(r) 90 000-92 000 glycoprotein is synthesized and released by the oviduct in a temporally and regionally specific manner during early

pregnancy as the gametes and fertilized egg are traversing the tube and prior to a systemic rise in progesterone.

L78 ANSWER 32 OF 56 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.

ACCESSION NUMBER: 2003101137 EMBASE TITLE:

Effects of Gram-positive bacterial pathogens in ewes: Peptidoglycan as a potential mediator of interruption of

early pregnancy.

Stewart A.B.; Inskeep E.K.; Townsend E.C.; Dailev R.A. AUTHOR: CORPORATE SOURCE: R.A. Dailey, Div. of Animal/Veterinary Sciences, West

Virginia University, PO Box 6108, Morgantown, WV 26506-6108, United States. rdailey@wvu.edu

Reproduction, (1 Feb 2003) 125/2 (295-299).

Refs: 34

ISSN: 1470-1626 CODEN: RCUKBS United Kingdom

COUNTRY: DOCUMENT TYPE: Journal; General Review FILE SEGMENT:

0.03 Endocrinology 004 Microbiology

021 Developmental Biology and Teratology

LANGUAGE: English SUMMARY LANGUAGE: English

SOURCE:

Bacterial cell walls contain peptidoglycan (PTG), which, among other

actions, induces fever. The present experiment evaluated the effects of PTG treatment on early pregnancy and blood plasma concentrations of reproductive hormones. Ewes were injected i.v. with saline or 15, 30 or 60 .mu.g kg(-1) sonicated PTG (Streptococcus pyogenes) on day 5 after mating. Each dose of PTG induced fever. Pregnancy rate at day 25 was not related to incidence of fever but tended to differ among treatments (control, 100%; low, 100%; medium, 67%; high, 60%; P < 0.08). Combined pregnancy rate in ewes from control and low dose groups (100%) was greater than that in ewes from medium and high dose groups (64%, P < 0.01). Ewes with high 13, 14-dihydro-15-keto-prostaglandin F(2.alpha.) (PGFM) concentrations had lower pregnancy rates (6 of 10) than those with low concentrations of PGFM (11 of 11; P < 0.05). Mean cortisol concentrations were higher in treated (2.8 .+-. 0.28 .mu.g dl(-1)) than in control (1.1 .+-. 0.03 .mu.g dl(-1)) ewes (P < 0.01); the pattern of secretion was biphasic and increased in all treated ewes (P < 0.01). Neither means nor profiles of oestradiol differed with treatment. Mean concentrations and the pattern of concentrations of progesterone were reduced in all treated ewes, as indicated by the time by treatment and linear interaction with treatment (1.2 .+-. 0.1 versus 1.6 .+-. 0.1 ng ml(-1), P < 0.01). Patterns of LH pulses did not differ from 0 to 4 h or 24 to 28 h after treatment; mean plasma LH concentration was lower in ewes treated with 0, 15 or 30 .mu.g PTG kg(-1) than with 60 .mu.g PTG kg(-1) (P < 0.01). Pregnancy status was not related to plasma concentrations or patterns of LH, oestradiol, progesterone or cortisol. Inflammatory mediators, such as PGF(2.alpha.), may act directly on the embryo or uterus in ewes treated with PTG.

L78 ANSWER 33 OF 56 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. ACCESSION NUMBER: 2002:457053 BIOSIS

DOCUMENT NUMBER:

PREV200200457053

DOCUMENT NUMBER: TITLE:

'Sequential expression of specific genes during

early pregnancy of somatic-cell

clone-recipient cows.
AUTHOR(S): Kizaki, Kelichiro (1)

Kizaki, Keiichiro (1); Ishiwata, Hiroko (1); Hirasawa,

Akira; Shiojima, Satoshi; Katsuma, Susumu; Ikawa, Hiroshi;

Imai, Kei (1); Takahashi, Toru (1); Takahashi, Seiya;
Akagi, Satoshi; Tsujimoto, Gozo; Hashizume, Kazuyoshi (1)

CORPORATE SOURCE: (1) Department of Developmental Biology, National Institute of Agrobiological Sciences, Tsukuba Japan SOURCE: Biology of Reproduction, (2002) Vol. 66. No. Supplement 1.

Biology of Reproduction, (2002) Vol. 66, No. Supplement 1, pp. 242-243. print.

Meeting Info.: 35th Annual Meeting of the Society for the Study of Reproduction Baltimore, Maryland, USA July 28-31, 2002

ISSN: 0006-3363.

DOCUMENT TYPE: Conference LANGUAGE: English

L78 ANSWER 34 OF 56 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

ACCESSION NUMBER: 2002:405833 BIOSIS DOCUMENT NUMBER: PREV200200405833

TITLE: Abnormal expression of trophoblast major histocompatibility

complex class I antigens in cloned bovine

pregnancies is associated with a

pronounced endometrial lymphocytic response.

AUTHOR(S): Hill, Jonathan R. (1); Schlafer, Donald H.; Fisher,

Patricia J.; Davies, Christopher J.

CORPORATE SOURCE: (1) Department of Clinical Sciences, College of Veterinary

Medicine, Cornell University, Box 34, Ithaca, NY,

14853-6401: jrh35@cornell.edu USA

SOURCE: Biology of Reproduction, (July, 2002) Vol. 67, No. 1, pp.

55-63. print. ISSN: 0006-3363.

DOCUMENT TYPE: LANGUAGE: Article English

Early embryonic losses are much higher in nuclear transfer (cloned) pregnancies, and this is a major impediment to improving the efficiency of cloned animal production. In cattle, many of these losses occur around the time of placental attachment from the fourth week of gestation. We studied the potential for altered immunologic status of cloned pregnancies to be a contributing factor to these embryonic losses. Expression of major histocompatibility complex class I (MHC-I) by trophoblast cells and distribution of endometrial T-lymphocyte numbers were investigated. Six 5-wk-old cloned pregnancies were generated, and 2 others at 7 and 9 wk were also included, all derived from the same fetal cell line. All 8 cloned placentas displayed trophoblast MHC-I expression. None of the 8 controls (4-7 wk old) showed any MHC-I expression. The percentage of trophoblast cells expressing MHC-I varied in the clones from 17.9% to 56.5%. Numbers of T lymphocytes (CD3+ lymphocytes) were significantly higher in the endometrium of the majority of cloned pregnancies compared with controls. In the cloned pregnancies, large aggregates of T cells were frequently observed in the endometrium in addition to increased numbers of diffusely spread subepithelial lymphocytes. As trophoblast MHC-I expression is normally suppressed during early gestation, the observed MHC-I expression in the cloned pregnancies is likely to have induced a maternal lymphocytic response that would be detrimental to maintaining viability of the cloned pregnancy. These findings support a role for immunologic rejection in the syndrome of early

L78 ANSWER 35 OF 56 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. ACCESSION NUMBER: 2001:426213 BIOSIS

DOCUMENT NUMBER:

PREV200100426213

embryonic loss in cloned bovine pregnancies.

TITLE:

Assessment of a commercially available Early

Conception Factor (ECF) test for determining pregnancy

AUTHOR(S): CORPORATE SOURCE: status of dairy cattle. Cordoba, M. C.; Sartori, R.; Fricke, P. M. (1)

(1) Department of Dairy Science, University of Wisconsin,

SOURCE:

Madison, WI, 53706: fricke@calshp.cals.wisc.edu USA Journal of Dairy Science, (August, 2001) Vol. 84, No. 8, pp. 1884-1889. print.

ISSN: 0022-0302.

DOCUMENT TYPE: LANGUAGE: Article English

LANGUAGE: English SUMMARY LANGUAGE: English AB The Early Conception Factor (ECF) test is a commercially available

qualitative assay that reportedly detects a pregnancy-associated glycoprotein present in bovine serum within 48 h after conception. One concern with previous assessments of this test is that animals with viable embryos early during pregnancy that subsequently undergo embryonic loss before pregnancy diagnosis increase the rate of false-positive results and bias the assessment. To preclude this possibility, noninseminated Holstein cows (n=9) and heifers (n=8) were evaluated as an unequivocal source of nonpregnant animals, and Holstein cows (n=17) and heifers (n=1) inseminated at estrus and in which at least one embryo of transferable quality was recovered at a nonsurgical flush 6 d after artificial insemination were evaluated as an unequivocal source of pregnant animals. Blood samples were collected from all animals 6 d after estrus, which was immediately before embryo collection in

pregnant animals. Each serum sample was evaluated using two ECF test cassettes (tests 1 and 2), and the result of each test cassette was interpreted by two independent readers (readers I and 2). Test

sensitivity, specificity, positive predictive value, negative predictive value, and accuracy were 86, 4, 49, 23, and 46%, respectively. Although the observed agreement between readers (91% for test 1; 89% for test 2) and between tests for the same serum sample (94% for reader 1; 91% for reader 2) was high, the overall rates of false-positive and false-negative ECF test results were 96 and 14%, respectively. We conclude that the ECF test is an unreliable method for determining pregnancy status of dairy cattle on day 6 after estrus.

L78 ANSWER 36 OF 56 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

1999:540023 BIOSIS ACCESSION NUMBER: DOCUMENT NUMBER: PREV199900540023

TITLE:

Early pregnancy diagnosis in

goats by determination of pregnancy-associated

glycoprotein concentrations in plasma samples. AUTHOR(S):

Gonzalez, F. (1); Sulon, J.; Garbayo, J. M.; Batista, M.; Cabrera, F.; Calero, P.; Gracia, A.; Beckers, J. F.

CORPORATE SOURCE: (1) Reproduction and Obstetrics, Faculty of Veterinary,

University of Las Palmas de Gran Canaria, Arucas, 35416,

Las Palmas Spain

SOURCE: Theriogenology, (Sept., 1999) Vol. 52, No. 4, pp. 717-725.

ISSN: 0093-691X.

DOCUMENT TYPE: Article LANGUAGE: English SUMMARY LANGUAGE: English

Different RIA systems available for measuring the concentrations of

pregnancy-associated glycoproteins (PAGs) in dairy goats were compared in order to evaluate their accuracy in early

pregnancy diagnosis. Plasma concentrations of PAGs were determined by 3 heterologous RIA systems with a bovine PAG standard and

tracer in combination with antisera anti-ovine PAG (RIA 1), anti-caprine PAG55+62 (RIA 2), anti-caprine PAG55+59 (RIA 3), and by 2 homologous RIA systems that employed caprine PAG55+62 and caprine PAG55+59 and their specific antisera (RIAs 4 and 5, respectively). In all of the RIAs, the mean concentrations of PAGs were significantly higher (P<0.01) in pregnant than in nonpregnant goats from Day 21 onwards after breeding. On Day 21,

the accuracy rates of early pregnancy diagnoses were 56% (RIA 1), 96% (RIA 2), 99% (RIA 3), 95% (RIA 4) and 90% (RIA 5), whereas on Day 28 these rates were >99% for RIAs 2, 3, 4 and 5. The RIAs for PAGs depend on proteins from theplacenta being present in maternal plasma and require only a single sample of blood, to distinguish pregnant

goats from those that fail to return to estrus for other reasons. The homologous and semi-heterologous assays are highly accurate as

early as Day 21 of pregnancy.

L78 ANSWER 37 OF 56 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. ACCESSION NUMBER: 1997:407583 BIOSIS

DOCUMENT NUMBER: PREV199799713786

TITLE: Recent developments and potentialities for reducing embryo

mortality in ruminants: The role of IFN-tau and

other cytokines in early pregnancy. AUTHOR(S):

Martal, J. (1); Chene, Nicole; Camous, Sylvaine; Huynh, L.; Lantier, F.; Hermier, Paloma; L'Haridon, R.; Charpigny, G.;

Charlier, Madia; Chaouat, G.

CORPORATE SOURCE: (1) Unite d'Endocrinologie de l'Embryon, Station de

Physiologie Animale, INRA, 78352 Jouy-en-Josas Cedex France SOURCE: Reproduction Fertility and Development, (1997) Vol. 9, No.

3, pp. 355-380.

ISSN: 1031-3613. DOCUMENT TYPE: General Review

LANGUAGE: English AB This review considers the potential reduction of embryo mortality in vitro and in vivo in ruminants. Data on cytokines provided by different fields of reproductive immunology and biology were collated. Because of the crucial importance of the local interactions between the embryo and its dam, the expression of growth-factor and cytokine genes was analysed in the embryo proper, trophoblast, oviduct and endometrium by reverse transcriptase polymerase chain reaction in sheep and in cattle during the pre- and periimplantation periods. Many deleterious cytokines, such as tumour necrosis factor-alpha, interferon-gamma (IFN-gamma), interleukin-2 (IL-2), and beneficial cytokines, such as transforming growth factor-beta, leukaemia inhibiting factor, colony-stimulating factor-1 (CSF-1), ganulocyte-macrophage CSF, IL-1, IL-3, IL-4, IL-6, IL-10 and IFN-tau appeared to be involved in embryo survival in ruminants and other species. Their administration is efficient in a murine experimental model (CBA/J times DBA/2) of embryonic and fetal mortality. For instance, recombinant ovine IFN-tau (roIFN-tau) injected at the moment of implantation drastically reduces embryonic mortality in this model. In ruminants, roIFN-tau and recombinant bovine IFN-tau are very efficient in maintaining progesterone luteal secretion in cyclic animals. The involvement of IFN-tau in the mechanisms of maternal pregnancy recognition are particularly detailed in relation to inhibition of 13,14-dihydro-15-keto-prostaglandin F-2alpha (PGFM) pulses and oxytocin uterine receptivity. A synthetic model of the anti-luteolytic effects of IFN-tau on the endometrial cell is proposed. Finally, the particular potential of serum pregnancy-specific proteins (PSPs: PSPB, PSP60, pregnancy-associated glycoprotein) for monitoring embryo survival, with examples given for cattle and sheep is underlined.

L78 ANSWER 38 OF 56 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

ACCESSION NUMBER: 1995:417573 BIOSIS DOCUMENT NUMBER:

PREV199598431873

TITLE:

Isolation and partial characterization of an ovine

Pregnancy-Associated Glycoprotein (oPAG

AUTHOR(S):

Zoli, A. P. (1); Beckers, J. F.; Ectors, F. CORPORATE SOURCE:

(1) Serv. Physiol. Pathol. Reprod., Fac. Med. Veterinaire de l'Univ. de Liege Bd de Colonster 20, P. 71 B. 41, B-4000 Liege 1. Belgium

SOURCE:

Annales de Medecine Veterinaire, (1995) Vol. 139, No. 3,

pp. 177-184.

ISSN: 0003-4118.

DOCUMENT TYPE: LANGUAGE:

Article French

SUMMARY LANGUAGE: French: English

AR Isolation and partial characterization of an ovine Pregnancy-Associated Glycoprotein (oPAG) An ovine Pregnancy-Associated

Glycoprotein (oPAG) has been isolated from fetal cotyledons by the means of ammonium sulfate precipitations and different liquid chromatographies. The bovine PAG was used as standard and tracer to monitor the oPAG in each step of isolation. Ovine PAG seems to be an heterogeneous group of glycoproteins of molecular mass ranging from 47 to 67 kD. Molecular cloning of its cDNA revealed that ovine and bovine PAG share 86% nucleotide sequence identity and both belong to the aspartic proteinase family (gtoreq 50% amino acid sequence identity to pepsin and cathepsins D and E). However neither bovine nor ovine PAGs do not appear to be enzymatically active. The oPAG's cDNA codes for a polypeptide of 382 amino acids long that is synthesized by trophoblastic binucleate cells since day 18 post conception and detected in maternal circulation since day 24 p.c. The detection of oPAG could be used for early diagnosis of pregnancy and determination of early embryonic mortality in sheep and other domestic and wild ruminants.

L78 ANSWER 39 OF 56 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

ACCESSION NUMBER: 1995:165689 BIOSIS DOCUMENT NUMBER: PREV199598179989

TITLE: Data to the early pregnancy

diagnosis by ultrasonography in cattle,

pigs and horses: Short second communication.

AUTHOR (S): Szenci, Otto

CORPORATE SOURCE: Istvan u. 2, Budapest H-1078 Hungary

SOURCE: .Magyar Allatorvosok Lapja, (1995) Vol. 50, No. 1, pp.

25-26.

ISSN: 0025-004X.

DOCUMENT TYPE: Article LANGUAGE: Hungarian

SUMMARY LANGUAGE: Hungarian; English

Accurate and early detection of pregnant and

nonpregnant animals has become a key to good breeding management because it is an essential factor for monitoring and controlling fertility in food animals and horses. One of the most recent techniques for early

pregnancy diagnosis in cattle, pigs and horses on the

farm is the B-mode ultrasonography. The author makes acquainted with the papers (4a-4d) published together with his coworkers and abstracts (4e-4i) presented at different congresses in English which deal with the accuracy of early pregnancy diagnosis in cattle, pigs

and horses made by the first battery-operated, portable ultrasonic scanner. The scanner was made by a Hungarian invention in Canada. For detecting the pregnant/nonpregnant animals, the ultrasonic method gives a high accuracy: between the 25th to 29th day in the cattle, the 23rd to 24th day in pigs, after the artificial insemination, and between

the 20th to 24th day in horses after the mating. In cattle the determination of bovine pregnancy associated

glycoprotein may help in the detection of false diagnoses.

L78 ANSWER 40 OF 56 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. ACCESSION NUMBER: 1995:431300 BIOSIS

PREV199598445600 DOCUMENT NUMBER:

TITLE: Oviduct proteins in fertilization and early embryo development.

AUTHOR(S): Nancarrow, C. D.; Hill, J. L.

CORPORATE SOURCE: CSIRO Div. Anim. Prod., Clunies Ross St., Prospect, NSW,

Locked Bag 1, Delivery Cent., Blacktown 2148 Australia SOURCE:

Journal of Reproduction and Fertility, (1995) Vol. 0, No.

SUPPL. 49, pp. 3-13. TSSN: 0022-4251.

DOCUMENT TYPE: Article LANGUAGE: English

The oviduct controls the environment in which the gametes are transported and fuse, and in which embryonic development begins. The ultrastructural topography of the ampulla and isthmus is similar, consisting of ciliated and secretory cells, but a different array of proteins is secreted by each segment along with various serum components. Amino acids are selectively secreted by the oviduct; these amino acids probably interact with the

gametes or embryo to facilitate the processes of fertilization and development. An oviduct-specific glycoprotein is synthesized by the ampulla of sheep and cattle in response to oestrogen and secreted mainly from day - 1 to day 3 of the ovarian cycle. This oestrus-associated glycoprotein (EGP) has a variable molecular

mass of 80-97 kDa and a pI value ranging from 4.7 to 5.5. The

bovine (b) and ovine (o) EGP genes are 95.5% identical and consist of 1560 base pairs encoding 519 amino acids containing one N-linked and several O-linked glycosylation sites. The terminal glycosides are N-acetylglucosamine and galactose-N-acetylgalactosamine for bEGP, and fucose, galactose and sialic acid residues are also identified for oEGP. EGP binds to zona pellucida and blastomere membranes, but evidence for EGP binding to sperm membranes is equivocal. After in vitro fertilization the proportion of sheep oocytes cleaving was increased in the presence of oEGP, but when single-cell embryos were cultured with oEGP, these cleavage rates were reduced. In addition, consistent positive effects of oEGP were observed on blastocyst formation. Elaboration of the mechanism of synthesis of EGP, its action and its role in fertilization and embryo development is important for our understanding of the events of early pregnancy.

L78 ANSWER 41 OF 56 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. ACCESSION NUMBER: 1994:381319 BIOSIS

DOCUMENT NUMBER: PREV199497394319

TITLE: An mRNA encoding an estrogen (E)-dependent oviduct-

specific glycoprotein (Mr90-92,000) is expressed in a temporal and regional specific

manner during early pregnancy in the

sheep.

AUTHOR(S): Desouza, M. M.; Murray, M. K.

CORPORATE SOURCE: Tufts Univ., Boston, MA USA

SOURCE: Biology of Reproduction, (1994) Vol. 50, No. SUPPL. 1, pp.

> Meeting Info.: Twenty-seventh Annual Meeting of the Society for the Study of Reproduction Ann Arbor, Michigan, USA July

24-27, 1994 ISSN: 0006-3363.

DOCUMENT TYPE: Conference LANGUAGE:

English

L78 ANSWER 42 OF 56 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. 1994:381183 BIOSIS

ACCESSION NUMBER: DOCUMENT NUMBER:

PREV199497394183 TITLE: Expression of ovine sulfated glycoprotein-1

(oSGP-1) and sulfated glycoprotein-2 (oSGP-2)

messenger RNA in ovine endometrium during the estrous cycle and early pregnancy.

AUTHOR(S): Graf, G. A.; Spencer, T. E.; Bazer, F. W.

CORPORATE SOURCE: Dep. Anim. Sci., Inst. Biosciences and Technol., Cent. Anim. Biotechnol., Tex. A and M Univ., College Station, TX

77843-2471 USA

SOURCE: Biology of Reproduction, (1994) Vol. 50, No. SUPPL. 1, pp.

Meeting Info.: Twenty-seventh Annual Meeting of the Society for the Study of Reproduction Ann Arbor, Michigan, USA July

24-27, 1994

ISSN: 0006-3363. Conference

DOCUMENT TYPE: LANGUAGE: English

L78 ANSWER 43 OF 56 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

ACCESSION NUMBER: 1988:437428 BIOSIS DOCUMENT NUMBER: BA86:89526

TITLE: DIFFERENTIAL GLYCOSYLATION OF THE COMPONENTS OF

THE BOVINE TROPHOBLAST PROTEIN-1 COMPLEX. AUTHOR(S): HELMER S D; HANSEN P J; THATCHER W W

CORPORATE SOURCE: DAIRY SCI. DEP., UNIV. FLA., GAINESVILLE, FLA. 32611-0701, U.S.A.

SOURCE: MOL CELL ENDOCRINOL, (1988) 58 (1), 103-107.

CODEN: MCEND6. ISSN: 0303-7207. FILE SEGMENT:

BA; OLD LANGUAGE: English

The bovine trophoblast protein-1 complex, a major secretory

product of the day 17 to 18 conceptus, has been implicated in extension of

luteal lifespan during early pregnancy. This

glycoprotein complex, identifiable by immunoprecipitation procedures utilizing rabbit antiserum to ovine trophoblast protein-1, exists as seven isomers of two size classes (22 and 24 kDa). Culture of

embroys with tunicamycin demonstrated that the isomers are N-linked glycoproteins, as deglycosylated products migrate as a single band (18 kDa) during electrophoresis. Culture with deoxymannojirimycin indicated that the 24 kDa form is complex in nature, whereas treatment with endoglycosidase H and lectin chromatography indicated that the 22 kDa form is a high-mannose type glycoprotein. These results indicate that molecular weight variants of bovine trophoblast protein-1 arise as a single translation product that undergoes differential post-translational glycosylation.

L78 ANSWER 44 OF 56 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

ACCESSION NUMBER: 1982:226742 BIOSIS

DOCUMENT NUMBER: BA73:86726

TITLE: EVALUATION AND MODIFICATION OF A RADIO IMMUNOASSAY FOR

PREGNANCY SPECIFIC BETA-1 GLYCO PROTEIN.

AUTHOR(S): CORPORATE SOURCE:

BONTE H A; VAN DER SLUIJS VEER G STREEKZIEKENHUIS MIDDEN-TWENTE, AFDELING KONINGIN JULIANA,

BOERHAAVELAAN 65, NL-7555 BB HENGELO.

SOURCE: J CLIN CHEM CLIN BIOCHEM, (1981 (RECD 1982)) 19 (12),

1197-1200.

CODEN: JCCBDT. ISSN: 0340-076X.

FILE SEGMENT: BA; OLD LANGUAGE:

Enalish

AB The radioimmunoassay available for pregnancy-specific .beta.1-

glycoprotein (SP1) was tested for its ability to detect pregnancy prior to the 1st missed menstrual period. The equine serum, used as solvent for the standards, did not react like human serum. The standard solvent was replaced by bovine serum albumin, 50 g/l, and pooled human serum, respectively. Equilibrium and sequential incubation procedures were compared. The latter appeared to be more sensitive in the low value range and was more suitable for the early detection of pregnancy. With standards in albumin, the sequential assay was

more specific. SP1 could be detected in sera of men and non-pregnant women using albumin as standard solvent. This could be due to different cross reacting material of the protein matrix or to the presence of SP1-like material in human sera. The choice of human male serum seemed most practical.

L78 ANSWER 45 OF 56 WPIDS (C) 2003 THOMSON DERWENT ACCESSION NUMBER: 2001-218471 [22] WPIDS

DOC. NO. NON-CPI: N2001-155706

DOC. NO. CPI: C2001-065291

TITLE: Determining progesterone content of raw milk,

useful for indicating the time of estrus and pregnancy,

comprises contacting milk with a biosensor. DERWENT CLASS: B04 C07 D16 S03

INVENTOR(S):

ROOSENSCHOON, P L; VERSTEGE, A B M PATENT ASSIGNEE(S): (NEDA) NEDAP NED APPARATENFAB NV

COUNTRY COUNT: 95 PATENT INFORMATION:

PATENT NO KIND DATE WEEK LA PG

WO 2001014887 A1 20010301 (200122) * EN 16

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW

W: AE AG AL AM AT 'AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

NL 1012859 C2 20010226 (200129)

AU 2000066013 A 20010319 (200136)

EP 1232397 A1 20020821 (200262) EN

R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI

APPLICATION DETAILS:

PAT	PENT	NO	K:	IND	AP	PLICATION	DATE
NL AU	2001 1012 2000 1232	859 0660		C2	NL AU EP	1999-1012859 2000-66013 2000-953588	20000821 19990819 20000821 20000821 20000821

FILING DETAILS:

PA'	TENT NO K	IND			PAT	ENT NO	
							-
ΑU	2000066013	Α	Based	on	WO	200114887	1
ΕP	1232397	A1	Based	on	WO	200114887	1

PRIORITY APPLN. INFO: NL 1999-1012859 19990819 AB WO 200114887 A UPAB: 20010421

NOVELTY - Determining the amount of progesterone (I) in raw milk of cows comprising contacting the milk with a biosensor, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a system comprising a biosensor connected to a computer for performing the new method; and

(2) use of a biosensor for determining the amount of (I) in raw milk of cows.

USE - The method and biosensor are particularly applied to cows and are used to indicate when they are in heat (for timing of insemination) or in-calf (detecting an early pregnancy

), or if they have some defect in the reproductive system (claimed).

ADVANTAGE - The method provides automated, reliable and inexpensive determination of (I) content, over the whole of the concentration range 0-40 ng/ml. 0-40 ng/ml.

L78 ANSWER 46 OF 56 WPIDS (C) 2003 THOMSON DERWENT

ACCESSION NUMBER: 2002-130122 [17] WPIDS

CROSS REFERENCE: 2001-147510 [15]
DOC. NO. NON-CPI: N2002-098166
DOC. NO. CPI: C2002-039874

TITLE:

New therapeutic MA polypeptides corresponding
to human chorionic gonadotrophin peptides, useful for
treating and preventing cancers, pathological

angiogenesis and loss of body cell mass.

DERWENT CLASS: B04 D16 S03

INVENTOR(S):

BRYANT, J; GALLO, R; LUNARDI-ISKANDAR, Y PATENT ASSIGNEE(S): (UYMA-N) UNIV MARYLAND BIOTECHNOLOGY INST 95

COUNTRY COUNT: PATENT INFORMATION:

PATENT NO KIND DATE WEEK LA PG

WO 2001011048 A2 20010215 (200217)* EN 209 RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW

W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

AU 2000068947 A 20010305 (200217) EP 1250438 A2 20021023 (200277) EN

R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI

APPLICATION DETAILS:

PATENT NO KIND APPLICATION DATE ______ WO 2001011048 A2 WO 2000-US21499 20000805 AU 2000068947 A AU 2000-68947 20000805 EP 1250438 A2 EP 2000-957310 20000805 WO 2000-US21499 20000805

FILING DETAILS:

PAT	ENT	NO	KIND			PAT	ENT	NO
AU	2000	06894	17 A	Based	on	WO	2001	11048
EP	1250	438	A2	Based	on	WO	2001	11048

PRIORITY APPLN. INFO: US 2000-188777P 20000313; US 1999-147825P

19990806 WO 200111048 A UPAB: 20021129 AB

NOVELTY - A therapeutic polypeptide (I) selected from MA (undefined), pro MA (pMA) and other fully defined sequences as given in the specification, is new.

DETAILED DESCRIPTION - (I) selected from an isolated polypeptide: (a) consisting of MA or pro MA (pMA);

(b) comprising fully defined sequences of peptide MA, pMA, MA(S1), MA(S2), MA(S3), MA(S5), MA(S9), MA(S10), or MA(S11) (P1-7) (synthetic mimetics of MA peptides), beta human chorionic gonadotrophin (beta hCG) 55-58, beta hCG 55-90, beta hCG 55-91, beta hCG 55-74, beta hCG 6-37, beta hCG 6-39, or beta hCG 6-40 (P8-11); or

(c) functional equivalents of (a) or (b), is new.

INDEPENDENT CLAIMS are also included for the following:

(1) a fusion polypeptide comprising (2 or more) (I) joined via a covalent bond to a heterologous polypeptide;

(2) a peptide isolated from early pregnancy urine

comprising MA/pMA;

(3) an isolated nucleic acid (II) encoding (I);

(4) an expression vector (III) comprising (II) operably linked to a promoter;

(5) a cell (IV) comprising (III);

(6) an isolated antibody (V) or its fragment which specifically binds to (I);

- (7) a cell producing (V), produced by fusion of an immortal cell line to an immunoglobulin-cell producing plasma cell producing the monoclonal antibody;
- (8) an anti-idiotype antibody which binds to a variable domain or
- (9) a fragment of HUSI-II (undefined) comprising an SH3 motif and flanking residues e.g., 40-46, 40-60, 40-59, 40-58, 40-66, 40-67, 40-68;
- (10) expanding (M1) blood cells in vitro comprising contacting blood cells with (I);
- (11) providing (M2) blood cells comprising administering the blood cells expanded by M1;
 - (12) detecting (M3) MA/pMA in a biological sample;
 - (13) purifying (M4) MA/pMA in a biological sample;
- (14) producing (M5) a peptide library for screening for a therapeutic effect from anti-human immunodeficiency virus (HTV) effects, anti-cancer effects, anti-wasting effects, radioprotective effects, anti-angiogenic effects, anti-inflammatory effects and pro-hematopoietic effects; and
- (15) identifying (M6) peptide having one or more of anti-HIV effect, anti-cancer effect, anti-wasting effect, radioprotective effect, and pro-hematopoietic effect.
- ACTIVITY Anti-HIV; cytostatic; virucide; antibacterial; antirheumatic; antiarthritic; antidiabetic; immunosuppressive; hepatotrophic; neuroprotective; antiinflammatory; dermatological; antianemic; antidiarrheic; vulnerary; vasotropic; osteopathic; immunostimulant; antiparasitic; fungicide; ophthalmological. Simian immunodeficiency virus (SIV) (MAC251) induces disease in rhesus monkeys similar to acquired immunodeficiency syndrome (AIDS) in humans only with much greater rapidity. Therapy with purified MA of 3 monkeys with end-stage disease infected 13-14 mos earlier was initiated when the animals were losing weight, highly viremic (plasma virus 0.5 to 3 multiply 10 to the power of 6 copies of SIV RNA/ml by nucleic acid sequence based amplification (NASBA)), and developing pancytopenia. Treatment of these monkeys with end-stage AIDS with MA at 0.2 mg/kg dose 3 times weekly produced no significant change in SIV titer over 6 mos. observation period. However, in this period none of the 3 animals died. In contrast, most untreated animals died by this period. Also crude urinary preparations containing MA, but not crude fractions lacking MA, were inoculated subcutaneously. Using a 10 to the power of (4.5) TCID(50) of cell free SIV(mac251), the characteristic rise in SIV P27, reduction of CD4+T-cells, and weight loss, which occurred in the untreated animals, was prevented in MA treated animals. The untreated animals died before 6 mos. The treated animals were maintained for 7 mos without weight loss, with normal CD4+ T-cell counts, and barely detectable plasma p27 (less than 5 ng/ml in contrast to over 200 ng/ml in control animals). However, stopping therapy led to rapid onset of virus production and development of AIDS-like disease.

MECHANISM OF ACTION - Angiogenesis inhibitor; gene therapy.

USE - (I) is useful for inhibiting HIV replication. (I) is useful for treating or preventing:

(a) human immunodeficiency virus (HIV) infection;

- (b) cancer such as brain, breast, lung, pancreatic, prostate or renal cancer, or hematopoietic malignancy, preferably Kaposi's sarcoma where (I) is administered:
 - (i) in conjunction with radiation therapy; or
- (ii) prior to, contemporaneously with or after anticancer chemotherapy, or radiation therapy;
- (c) a condition characterized by loss of body cell mass in a subject, such as wasting associated with HIV infection, cancer, or hematopoietic deficiency;
- (d) a condition associated with pathological angiogenesis, e.g., angiogenesis associated with neoplasm; or

- (e) hematopoietic deficiency:
- (i) resulting from failure or dysfunction of normal blood cell production and/or maturation; or
- (ii) associated with neoplastic disease of a hematopoietic origin, malignancy, malignant disease of hematopoietic organ, autoimmune condition, trauma, radiation exposure (associated with medical therapy or anticancer therapy, where the polypeptide is administered prior to, after or contemporaneously with the radiation).
- (I) is also useful in ex vivo gene therapy which involves removing cells from the subject, treating the cells with a pro-hematopoietic polypeptide to provide an expanded and/or differentiated set of cells, where the pro-hematopoietic polypeptide is (I), transforming cells and/or expanded and/or differentiated cells with a therapeutic expression vector to provide transformed cells, and returning transformed cells to the subject. The method further involves increasing the blood count of at least one class of blood cells in the subject by administering to the subject (I). The therapeutic vector used in the above mentioned method expresses a polypeptide which is dysfunctional or lacking in the subject, or a polypeptide which produces a therapeutic effect in the subject. The cells which are removed from the subject are preferably hematopoietic cells (all claimed). (I) is also useful for treating bacterial infections, chronic diarrhea, anemia, autoimmune disease, rheumatoid arthritis, diabetes, chronic hepatitis, systemic lupus erythematosus, wound, burn, inflammation (especially of the cornea), osteoporosis, parasitic infections and fungal infections. Dwg.0/17

L78 ANSWER 47 OF 56 WPIDS (C) 2003 THOMSON DERWENT

2000-587225 [55] WPIDS ACCESSION NUMBER:

N2000-434606 DOC. NO. NON-CPI: DOC. NO. CPI: C2000-175057

TITLE:

Composition for testing bovine

pregnancy, comprises antibody to an early pregnancy factor conjugated to a label.

DERWENT CLASS: B04 C07 D16 P32

FRUSHOUR, S L M; JONES, K D; PEARSON, M; SLOWIKOWSKI, E INVENTOR(S):

(KEMS-N) KEMS BIO-TEST LTD

COUNTRY COUNT: 89

PATENT ASSIGNEE(S): PATENT INFORMATION:

> WEEK T.A PG PATENT NO KIND DATE

WO 2000051520 A2 20000908 (200055)* EN 46

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW

W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS

LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

AU 2000035119 A 20000921 (200065)

APPLICATION DETAILS:

	IND	API	LICATION	DATE
WO 2000051520 AU 2000035119	A2			20000302 20000302

FILING DETAILS:

PATENT NO KIND PATENT NO

AU 2000035119 A Based on

WO 200051520

PRIORITY APPLN. INFO: US 1999-122400P 19990302 WO 200051520 A UPAB: 20001102

NOVELTY - A composition (I) for testing pregnancy of an animal, comprises an antibody to an early pregnancy factor (EPF) of an

animal conjugated to a label. DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the

following: (1) a test device (II) for detecting an animal EPF, comprising:

(a) a porous solid phase material capable of conveying a liquid sample in a fluid flow direction generally parallel to the length of the test device;

(b) sample receiving zone within the porous solid phase material, where the sample and other assay reagents may be contacted with the device; and

(c) an antibody zone within the porous solid phase material, comprising an immobilized antibody to the EPF of the animal disposed at a downstream location from the sample receiving zone;

(2) isolating (III) an antibody to an EPF, comprising injecting a biological fluid comprising EPF of the animal to another animal which is capable of producing antibody to the biological fluid, isolating antibodies and removing non-early EPF antibodies;

(3) a liquid sampling tube, comprising a base portion having an inlet for allowing a liquid sample to enter into the tube, a body portion having at least one opening and a top portion for enclosing the tube; and

(4) a bovine pregnancy testing kit (IV), comprising a bovine pregnancy test device and a liquid sampling tube.

USE - (I) or (II) is useful for determining pregnancy of an animal, especially a cow which is pregnant for less than 100 days, especially from 20-40 days, by obtaining a liquid biological sample such as urine, saliva, milk, perspiration (or their combinations), preferably serum and testing for the presence of EPF in the sample (claimed).

ADVANTAGE - The pregnancy detection method facilitates early detection of the pregnancy as early as

30-48 hours after insemination. Dwg.0/6

L78 ANSWER 48 OF 56 WPIDS (C) 2003 THOMSON DERWENT ACCESSION NUMBER: 1989-292498 [40] WPIDS

DOC. NO. NON-CPI: DOC. NO. CPI:

N1989-223124 C1989-129639

TITLE:

DERWENT CLASS:

INVENTOR(S):

New mammalian serum protein indicative of pregnancy - allowing early diagnosis,

esp. in ruminants, and identification of embryo

death. A89 B04 C03 J04 S03 S05 17

CAMOUS, S; MARTAL, J (INRG) INRA INST NAT RECH AGRONOMIOUE

PATENT ASSIGNEE(S): COUNTRY COUNT: PATENT INFORMATION:

> PATENT NO KIND DATE WEEK PG

WO 8908668 A 19890921 (198940) * FR RW: AT BE CH DE FR GB IT LU NL SE

W: AU DK JP US

FR 2628743 A 19890922 (198945) PT 90043 A 19891110 (198950)

AU 8932959 A 19891005 (199001)

```
A 19910109 (199102)
EP 406281
   R: AT BE CH DE FR GB IT LI LU NL SE
DK 9002232
            A 19900918 (199103)
ES 2017811
             А
                19910301 (199115)
JP 03504236
             W
                19910919 (199144)
             B1 19920722 (199230)
EP 406281
                                  FR
   R: AT BE CH DE FR GB IT LI LU NL SE
DE 68902233
            E 19920827 (199236)
```

APPLICATION DETAILS:

PA'	TENT NO	KIND	AP	PLICATION	DATE
	8908668 2628743	A A		1989-FR115 1988-3590	19890317 19880318
EP	406281 2017811	A A		1989-903756 1989-978	19890317 19890317
JP	03504236	W	JP	1989-503451	19890317
EP	406281	B1		1989-903756 1989-FR115	19890317 19890317
DE	68902233	Ε	EP	1989-602233 1989-903756	19890317 19890317
			WO	1989-FR115	19890317

FILING DETAILS:

PAT	ENT NO	KIND			PA'	PENT	NO
	406281 68902233	B1 E	Based Based Based	on	EP	8908 4062 8908	81

PRIORITY APPLN. INFO: FR 1988-3590 19880318 WO

8908668 A UPAB: 19930923 New protein, designate PSP (pregnancy serum protein) 60 and specific for pregnancy in mammals, has an N-terminal sequence of formula X-Gly-Ser-X -Leu-Thr-Thr-His -Pro-Leu-Arg-Asn-Ile -Lys-Asp-Leu-Val -Tyr-Met-Gly-X -Ile-Thr-Ile-Glv -Thr-Pro-Pro-Gln -Glu-Phe-Gln-Val-Val-Phe-Asp -Thr-Ala-Ser-X-(X is probably Asn). PSP60 has mol wt about 60.000

(polyacrylamide electrophoresis under denaturing conditions) and isoelectric point about 5.5.

USE - Detection of PSP60 in the blood (esp of ruminants) provides early detection of pregnancy, while a

decrease in its concn is indicative of death of the embryo. It is detected by immunoassay with specific mono- or polyclonal antibodies. 0/6

L78 ANSWER 49 OF 56 WPIDS (C) 2003 THOMSON DERWENT ACCESSION NUMBER: 1986-264940 [40] WPIDS

DOC. NO. NON-CPI: N1986-198048 DOC. NO. CPI: C1986-114696

TITLE: Cells producing early pregnancy

factor - used for producing monoclonal antibodies and detecting pregnancy.

DERWENT CLASS: B04 C03 D16 S03 INVENTOR(S):

CAVANAGH, A C; ROLFE, B E PATENT ASSIGNEE(S): (MORT-I) MORTON H; (UYOU) UNIV OUEENSLAND

COUNTRY COUNT: PATENT INFORMATION:

> PATENT NO KIND DATE WEEK PG

WO 8605498 A 19860925 (198640)* EN RW: AT BE CH DE FR GB IT LU NL SE W: AU GB JP US AU 8655897 A 198610132 (198651) W 19870910 (198742) JP 62502304 19880120 (198803) GB 2192634 Α EP 262119 A 19880406 (198814) R: AT BE CH DE FR IT LI NL SE GB 2192634 B 19900321 (199012)

APPLICATION DETAILS:

PAT	PENT NO	KIND	A.	PPLICATION	DATE
WO	8605498	Α	TATO	1986-AU60	19860312
	62502304	W		2 1986-501847	19860312
GB	2192634	A	GI	3 1986-20636	19860312
EΡ	262119	A	EI	1986-901744	19860312

PRIORITY APPLN. INFO: AU 1985-2402 19850912; AU 1985-9664 19850312; AU 1985-9750 19850315; AU 1986-55897 19850320

AB WO 8605498 A UPAB: 19930922

Method for producing early pregnancy factor (EPF) from any mammalian cell source comprises growing a selected cell which produces EPF in a culture medium to produce a supernatant medium contg. EPF and other prods. and harvesting the supernatant medium to obtain the EPF. The cells may be choriocarcinoma cells, human myeloma cells or human lymphoblastic cells. The purified EPF may be used to produce monoclonal antibodies.

USE - The antibodies can be used to detect EPF in human serum or urine for pregnancy diagnosis, e.g. in a home pregnancy testing kit or for detecting pregnancy in the horse and cattle industries and in the preservation of endangered species.

0/0

L78 ANSWER 50 OF 56 WPIDS (C) 2003 THOMSON DERWENT ACCESSION NUMBER: 1986-042108 [06] WPIDS

DOC. NO. NON-CPI: N1986-030808 DOC. NO. CPI: C1986-017913

TITLE: New isolated bovine pregnancy antigen and

monoclonal antibody to it - useful in detection

and supervision of bovine pregnancy at early stage.

DERWENT CLASS: B04 C03 D16 S03

INVENTOR(S): BOSTWICK, E; HUNTER, A
PATENT ASSIGNEE(S): (MINU) MINNESOTA UNIVER

PATENT ASSIGNEE(S): (MINU) MINNESOTA UNIVERSITY COUNTRY COUNT: 11

PATENT INFORMATION:

US 4755460

PATENT NO KIND DATE WEEK LA PG

WO 8600623 A '19860130 (198606) * EN 31

RW: AT CH DE PR GB IT NL SE

W: BR

EP 188551 A 19860730 (198631) EN

R: AT CH DE PR GB IT LI NL SE

R: AT CH DE PR GB IT LI NL SE

R 8506817 A 19861125 (199702)

A 19880705 (198829)

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 8600623	A	WO 1985-US1288	19850708
EP 188551	A	EP 1985-903612	19850708
US 4755460	A	US 1984-628571	19840706

PRIORITY APPLN. INFO: US 1984-628571 19840706 AR

8600623 A UPAB: 19930922 WO

(1) Isolated pure bovine pregnancy antigen for detecting and determing, pregnancy in cattle consists of a glycoprotein (I) obtd from a pregnant bovine animal is new.

(I) binds adenine dinucleotide; it has immunoreactive portions of molecular wt. 158000-263000; it contains N-acetylglucosamine, galactose and L-fucose and D-mannose and/or D-glucose; it has an isoelectric point of 4.5-5.5; and it gives a blue stain with Coomassie blue.

(I) produces an antibody to which bovine luteinising hormone, haemoglobin, albumin, IgG, fibrinogen fetuin and alpha-fetoprotein are not cross-reactive. (2) Monoclonal antibody produced by a hybridoma formed by fusing cells from a mouse myeloma line and spleen cells from a mouse previously immunised with (I), and with which the antibody reacts, is new. The hybridoma is esp. ATCC HB 8846. USE/ADVANTAGE - The antigen and/or antibody are used for the

detection and supervision of bovine pregnancy at an early stage. Blood, urine, milk or tissue extract from the bovine is tested for the antigen by contact with antiserum to it. 0/2

L78 ANSWER 51 OF 56 WPIDS (C) 2003 THOMSON DERWENT ACCESSION NUMBER: 1986-252581 [39] WPIDS

DOC. NO. NON-CPI:

N1986-188800 C1986-108895

DOC. NO. CPI: TITLE:

Early pregnancy test for farm

animals - pref. cattle, pigs and sheep using heterologous antiserum against early pregnancy serum, absorbed with non-

pregnant serum. B04 C03 S03

DERWENT CLASS: INVENTOR(S):

KLIMA, F; PITRE, C; TIEMANN, U PATENT ASSIGNEE(S): (DEAK) AKAD WISSENSCHAFTEN DDR COUNTRY COUNT: 1

PATENT INFORMATION:

PATENT NO KIND DATE WEEK PG LA DD 236177 A 19860528 (198639)* 3

APPLICATION DETAILS:

PATENT	NO	KIND	AP	PLICATION	DATE
DD 2361	177	A	DD	1985-275075	19850411

PRIORITY APPLN. INFO: DD 1985-275075 19850411

236177 A UPAB: 19930922

In an early pregnancy test for agricultural animals,

(a) a heterologous antiserum against early pregnancy

serum of the species to be tested is prepared, and (b) the antiserum is absorbed with non-pregnant serum of the same species and subsequently used in a crossed immunoelectrophoresis or other serological in vitro detection method.

- Systematic early detection of pregnancy in farm animals (especially cattle, pigs and sheep), for monitoring of fertility and early recognition of sterility problems. Simple, rapid and cheap test giving sure diagnosis of pregnancy even in the pre-implantive phase. 0/0

L78 ANSWER 52 OF 56 WPIDS (C) 2003 THOMSON DERWENT

ACCESSION NUMBER: 1984-242835 [39] WPIDS DOC. NO. NON-CPI: N1984-181744

DOC. NO. CPI: C1984-102640

TITLE: Early diagnosis of pregnancy in

DERWENT CLASS: BOGDANOV: BOGDANOV: cattle - involves using known gravo-hormone

PATENT ASSIGNEE(S): (SHAT-I) SHATALOV P I COUNTRY COUNT:

PATENT INFORMATION:

PATENT NO KIND DATE WEEK ------SU 1072856 A 19840215 (198439)* 3

APPLICATION DETAILS:

PATENT NO KIND APPLICATION DATE _____ SU 1072856 A SU 1975-2141946 19750609

PRIORITY APPLN. INFO: SU 1975-2141946 19750609 AB SU 1072856 A UPAB: 19930925

The cattle are injected subcutaneously with 2000-3000 units (mouse) units (800-1200 international units) on the 16th or 32nd day after insemination. 60-80 days after insemination rectal examination shows no hormonal stimulation in pregnant cattle. Non-pregnant cattle show positive stimulation.

USE/ADVANTAGE - More efficient early diagnosis of

pregnany esp. in longhorned cattle.

Typically, injections with Gravohomone preparate do not cause abortion and give high effectivity of early diagnosis of pregnancy, Bul. 5/7.2.84.

0/0

L78 ANSWER 53 OF 56 WPIDS (C) 2003 THOMSON DERWENT

ACCESSION NUMBER: 1980-51100C [29] WPIDS

TITLE: Monitoring pregnancy in dairy animals - by determining

oestrogen conjugates in milk. B04 C03 P14 S03 X25

DERWENT CLASS: PATENT ASSIGNEE(S): (HEAP-I) HEAP R B; (NATR) NAT RES DEV CORP

COUNTRY COUNT: PATENT INFORMATION:

> PATENT NO KIND DATE WEEK LA PG NL 7909362 A 19800701 (198029)*

```
GB 2040043
                   A 19800820 (198034)
                 A 19800829 (198034)
A 19800829 (198042)
A 19811013 (198144)
A 19820907 (198243)
FR 2445107
US 4294922
CA 1131112
GB 2040043
                   B 19830316 (198311)
```

PRIORITY APPLN. INFO: GB 1978-50234 19781229; GB 1979-43682 19791219

7909362 A UPAB: 19930902

Method of monitoring pregnancy in milk-producing livestock (esp. dairy cattle) comprises determining the concn. of estrogen conjugates

(I) in a sample of (or derived from) the milk of the animal, and comparing the result with the av. concn. of (I) in milk from non-pregnant animals of the same species.

The test is based on the fact that the concn. of (I) in milk from pregnant animals is significantly higher than in milk from non-pregnant animals. It can be performed on a routine basis and provides an early indication of pregnancy (within 15-20 days of insemination); it also provides a measure of the health of the foetus in the later stages of pregnancy.

L78 ANSWER 54 OF 56 WPIDS (C) 2003 THOMSON DERWENT

ACCESSION NUMBER: 1976-42331X [23] WPIDS

TITLE: Anti-embryo serum prod by immunizing hosts with embryonic matl - useful for diagnosis of pregnancy in

mammals. DERWENT CLASS: B04 C03 P31 S03 S05

GB 1492689 A 19771123 (197747)

PATENT ASSIGNEE(S): (AUST) AUSTRALIA DEPT AGRICULTUR; (VICT-N) STATE OF

VICTORIA; (UYME) UNIV MELBOURNE

COUNTRY COUNT: PATENT INFORMATION:

> PATENT NO KIND DATE WEEK PG DE 2551431 A 19760526 (197623) * FR 2291497 A 19760716 (197638) JP 51091323 A 19760810 (197639) BR 7507642 A 19760831 (197644) ZA 7507032 A 19760916 (197648)

PRIORITY APPLN. INFO: AU 1974-9644 19741118: AU 1975-2695 19750808

AB DE. 2551431 A UPAB: 19930901

New anti-embryo serum is produced by immunizing >=1 animals with a homogenate of embryo or selected embryo parts, embryo extract, purified embryo fractions or the blood of pregnant animals, unimportant antibodies being removed by selective adsorption of tissue homogenates other than embryos, uteri, ovaries and teh blood of pregnant animals. Procedure for the diagonosis of pregnancy in animals involves the use of antiserum thus produced in the testing of mammalian blood using methods which permit the detection of antigens, pref. agglutination agglutination inhibition, precipitation and/or radioimmunological methods. Used in early detection of pregnancy in animals such as sheep, cattle horses, pigs, dogs and goats as well as in humans. Unlike pregnancy tests involving the measurement of HCG, the new method is highly specific and does not give false positive results in the presence of such non-pregnancy conditions as hydatiform moles, choricadenoma or choriccarcinoma.

L78 ANSWER 55 OF 56 WPIDS (C) 2003 THOMSON DERWENT ACCESSION NUMBER:

1967-07565H [00] WPIDS TITLE: Early detection of pregnancy in

domestic animals. DERWENT CLASS: C00

PATENT ASSIGNEE(S):

(SYNT) SYNTEX CORP COUNTRY COUNT:

PATENT INFORMATION:

PATENT NO KIND DATE WEEK A.T PG (196800) * DE 1492157 B

PRIORITY APPLN. INFO: DE 1962-S302187 19621005 DE. 1492157 B UPAB: 19930831

Compn. for early detection of pregnancy in domestic animals,

conting, androgens and estrogens in an amount adapted to the animal species.

Early detection of pregnancy in such

non-menstruating domestic animals as horses, cattle and pigs in which pregnancy

otherwise difficult to detect in the early stages.

L78 ANSWER 56 OF 56 WPIDS (C) 2003 THOMSON DERWENT

ACCESSION NUMBER: 1966-39723F [00] WPIDS

TITLE: Early detection of pregnancy in domestic animals.

DERWENT CLASS: B00

PATENT ASSIGNEE(S):

(SYNT) SYNTEX CORP COUNTRY COUNT: 1

PATENT INFORMATION:

PATENT NO KIND DATE WEEK -----DE 1492157 A (196800)*

PRIORITY APPLN. INFO: DE 1962-S302187 19621005

DE 1492157 B UPAB: 19930831

Compn. for early detection of pregnancy in domestic animals,

conting, androgens and estrogens in an amount adapted to the animal species.

Early detection of pregnancy in such non-menstruating

domestic animals as horses, cattle and pigs in which pregnancy

otherwise difficult to detect in the early stages.

The pref. route of administration is by i.m. injection. Between the 12th and 17th days after mating (optimally on the 15th or 16th day), the female animal is injected with an androgen estrogen mixture in an experimentally determined

species-specific dosage. The timing of the injection is less critical if long-acting steroid esters are used. If the animal is not pregnant, powerful manifestations of estrus appear between the 20th and 24th day. If estrus does not appear, this is taken as an indication that the animal is pregnant. This diagnostic method has no effect on the fertility of the ova of non-pregnant animals and no effect on embryonic development in pregnant animals.

=> file home FILE 'HOME' ENTERED AT 18:24:54 ON 02 APR 2003

April

ou:

OM protein

Perfect score: Scoring table:

Post-processing: Minimum DB seq Maximum DB seq

Database

Total number

Searched:

```
Bovine pregnancy a
Cat pregnancy asso
Bovine pregnancy a
Human full-length
Novel human diagno
Mouse pepsinogen-f
Novel human diagno
                                                                                                                                                                                                                                                                                 Human pepsin. Hom
Pepsin protein. H
Sequence encoded b
Sequence of a poly
Pre-proteinin-A pr
Sequence of rennin
Sequence encoded b
Bovine chymosin po
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence encoded b
Sequence of calf p
Sequence encoded b
Sequence encoded b
             Bovine pregnancy a Govine pregnancy a
                                                                                                                                                                                                                                                                                                                                                                                                                 BamHI/Sall insert
Oleosin-spacer-Met
Prochymosin. AAP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Prochymosin (prore
Sequence encoded b
   pregnancy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        New bovine polypeptides useful for early diagnosis of pregnancy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PAG; boPAG9; pregnancy associated glycoprotein; cattle; bovine:
early pregnancy diagnosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bovine pregnancy associated glycoprotein boPAG9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ALIGNMENTS
                                                                                                                                                                                                                      AAU27708
ABG15391
AAE23084
AAG15392
AAB6589
AAB6589
                                                                                                                                                                                                                                                                                                                                                                                                                               AAP304144
AAP30446
AAR05080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAR20730
AAY32047
AAY32081
AAY32031
AAY32037
AAY32037
AAY32035
AAX32035
AAX32035
AAX32035
AAX32035
AAX32058
                                                                                                                                                                                                                                                                                                                  AAP30086
AAP40559
AAP40518
AAP40218
AAP40078
                                                                                                                                                                                                                                                                                                                                                                                                 AAU00536
AAP94376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAP94370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAP30603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAY32040 standard: Protein; 379 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ŝ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Xie
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              98US-0078783.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                95090SU-0W66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
Roberts RM, Green JA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (UMOR ) UNIV MISSOURI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 1999-601132/51
N-PSDB; AA220167.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                19-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              20-MAR-1998;
28-OCT-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    05-JAN-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WD9947934-A2
                                                                                                                                                                                                                                                                              803
737.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               23-SEP-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Bos taurus.
                             1449.5
1368.5
1368.5
1298.1
1157.5
11157.5
11158.5
1108.5
1004.5
923.5
861.8
861.8
                                                                                                                                                                                                                                                                                                                               723.5
721.5
720.5
716.5
695.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAY32040;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAY32040
ID AAY3
pregnancy
pregnancy
pregnancy
pregnancy
pregnancy
pregnancy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Bovine pregnancy
Bovine pregnancy
                                                                                                  2, 2003, 17:15:20 ; Search time 75 Seconds (Without alignments) 673.360 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the cotal score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                      A. A. Commerce (10.007);
A. COMMERCE (10.007
                                                                                                                                                                                                  1 MKWIVLLGLVAFSECIVKIP......RRYFSVFDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                / XIDS2//ccddata/geneseq/geneseq-embi/AA1995_DRT:
TDS2/gcgdata/geneseq-geneseq-embi/AA1996_DRT:
SIDS2/gcgdata/geneseq-geneseq-embi/AA1997_DRT:
SIDS2/gcgdata/geneseq-geneseq-embi/AA1996_DRT:
SIDS2/gcgdata/geneseq-geneseq-embi/AA1996_DRT:
SIDS2/gcgdata/geneseq-geneseq-embi/AA1999_DRT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /SIDS2/gcgdata/geneseg/genesegp-embl/AA2000.DAT:*
/SIDS2/gcgdata/geneseg/genesegp-embl/AA2001.DAT:*
/SIDS2/gcgdata/geneseg/genesegp-embl/AA2002.DAT:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Bovine
Bovine
Bovine
Bovine
Bovine
Bovine
Bovine
Bovine
             GenCore version 5.1.4_p5_4578
Copyright (c) 1993 - 2003 Compugen Ltd.
                                                                                                                                                                                                                                                                                                               of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                 908470 seqs, 133250620 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SUMMARIES
                                                                           protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                               Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAY32042
AAY32044
AAY32050
AAY32051
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAY32045
AAY32048
AAY32046
AAY32046
                                                                                                                                                                                                                                   BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                              Match 100%
                                                                                                                                                                                                                                                                                                                                               length: 0
length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                              Minimum Match 0%
Maximum Match 10
                                                                                                                                                                    US-09-273-164-32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length DB
```

Ouery Match 1

Score

Š

1571.5 1559.5 1553.5 1529.5 1526.5 1526.5

Claim 66; Page 110-111; 136pp; English.

100.0%; Score 2008; DB 20; 100.0%; Pred. No. 2.2e-202;

0; Mismatches

Matches 379; Conservative Local Similarity 379 AA;

61

ò ò

g g ò g qq

à

Sequence Query Match

98US-0106188

28-OCT-1998;

```
181 NISFSGAIPIFDNLKNGGAISEPVFAFYLSKNKQESSVVMFGGVDHQYYKGELNWIPLIE 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61 HPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLAVPSFCTMPACSAPVWFRQLQSSTF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61 HPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLMVPSFCTMPACSAPVWFRQLQSSTF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241 AGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGFGRLVNNIHRLIRTRPFDSKHYV 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241 AGEWRYHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTRPFDSKHYV 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      301 SCFATKYLPSITFIINGIKYPWTARAYIFKDSRGRCYSAFKENTVRISRETWILGDAFLR 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 301 SCFATNTLPSITFIINGIKYPWTARAYIPKDSRGRCYSAFKENTVRTSRETWILGDAFLR 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 MKWIVLLGLVAFSECIVKIPLROVKTMRKTLSGKNMLKNFLKEHPYRLSOISFRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 MXWIVLLGLMAFSECIVQIPLRQVKTWRKTLSGKNMLKNFLKEHPYRLSQISFRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The Woodsey. And are a structurally related to peptials. Possible to be restricted to unquiste anamala, and are specifically expressed than the properties of the properties. When the properties were the processed to the processed with the processed than the processed than the processed to the p
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121 QPINKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGLBGRNYDGVLGLNYP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         12) QPTNKTFTITYGSGSMKGFLAYDTVRIGBLVSTDQPFGLSVVEYGLBGRNYDGALGLNYP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181 NISFSGAIPIFDNLKNOGAISEPVFAFYLSKNKOEGSVVMFGGVDHQYYKGELNWIPLIE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 This sequence represents bovine pregnancy associated glycoprotein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PAG; boPAG16; pregnancy associated glycoprotein; cattle; bovine; early pregnancy diagnosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                       New bovine polypeptides useful for early diagnosis of pregnancy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ő
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       98.8%; Score 1983; DB 20; Length 379; 98.7%; Pred. No. 9.3e-200;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Bovine pregnancy associated glycoprotein boPAG16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim 70; Page 122-123; 136pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAY32044 standard; Protein; 380 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      361 RYFSVFDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 361 RYFSVFDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Watches 374; Conservative
                                                                                                                                                                                               Green JA,
                                                                                                    (UMOR ) UNIV MISSOURI
                                                                                                                                                                                                                                                                                          WPI: 1999-601132/51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       379 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                       N-PSDB; AAZ20169.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         05-JAN-2000
                                                                                                                                                                                               Roberts RM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAY32044;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAY32044
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5×8×8×
ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 a
                                                                      This appropriate profession brothe preparation of the post size of the pos
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181 NISFSGAIPIFDALKNOGAISEPVFAFYLSKNKQEGSVVMFGGVDHQYYKGELAWIPLIE 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               HPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLWVPSFCTMPACSAPVWFRQLQSSTF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HILINIMALVYVGNITIGTPPQEFQVVFDTGSSDLWVPSFCTWPACSAVWFRQLQSSTF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QPTHKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGLEGRNYDGVLGLNYP 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121 OPTNKTFITTYGSGSWKGFLAYDIVRIGDLVSTDQPFGLSVVEYGLDGRNYDGVLGLNYP 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181 NISFSGAIPIFDNLKNGGAISEPVFAFYLSKNKQEGSVVMFGGVDHQYYKGELNWIPLIE 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241 AGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIBGPGRLVNNIHRLIRTRPFDSKHYV 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241 AGEWRVHMDRISMKRYVIACSDGCEALVHTGTSHIBSPGRLVNNIHRLIRTRPFDSKRYV 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SCFATKYLPSITFIINGIKYPMTARAYIFKDSRGRCYSAFKENTVRTSRETWILGDAFLR 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SCFATKYLPSITFIINGIKYPMTARAYIFKDSRGRCYSAFKENTVRTSRETWILGDAFLR 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MKWIVLLGLVAFSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSGISFRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 MKWIVLLGLVAFSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PAG; boPAG9v; pregnancy associated glycoprotein; cattle; bovine;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ő
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 20: Length 379;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0; Indels
```

Sovine pregnancy associated glycoprotein boPAG9v.

early pregnancy diagnosis.

X D X M X S X M X S X D X Y X X D

M09947934-A2.

(first entry)

05-JAN-2000

AAY32042:

99WO-US06038 98US-0078783

19-MAR-1999; 20-MAR-1998; 33-SEP-1999, Bos taurus.

AAY32042 standard; Protein; 379 AA

RESULT 2

ò qq ò

ö

```
61 HPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLWVPS-FCTMPACSAPVWFRQLQSST 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     120 POPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDOPFGLSVVEYGLEGRNYDGVLGLNY 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121 FRITNKTERITYGSGRWKGVVVHDTVRIGHLVSTDQPFGLSIEEYGFEGRIYDGVLGLNY 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 180 PNISFSGAIPIFDNLKNOGAISEPVFAFTLSKNKOEGSVVMFGGVDHOYYKGELNWIPLI 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181 PHISPSGAIPIPDKLKNQRAISEPVFAFYLSKDEREGSVVHFGGVDHRYYEGELMHVPLI 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              240 EAGEWRVHMDRISMKRTVIACSDGCEALVHTGISHIEGPGRLVNNIHRLIRTRPFDSKHY 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241 OAGDWSVHMDRISIERKIIACSDGCKALVDTGTSDIVGPRRLVNNIHRLIGAIPRGSEHY 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          300 VSCFATKYLPSITFLINGIKYPMTARAYIFKDSRGRCYSAFKENTVRTSRETWILGDAFL 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 MKWLVLIGLVAFSECIVKIPLRELKTWRNVVSGKNMLNNFLKEHAYSLSQISFRGSNLTT 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 MKWIVLLGLVAFSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (MA) Debal. Is sequence regrented bounde programany associated jupoprotechi (MA) Debal. In Sequence regression to the control of the chick of the complete cheese of the pitcherol. (EMI) yearsel ANY 2013-19) are highly diverse in sequence, with response of the pitcherol of the chick of the pitcherol of the chick of the pitcherol of the pitcherol
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61 HPLRNIKDLVYMGNITIGTPPQEPQVVPDTASSDLMVPSDFCTSFACSTHVRFRHLQSST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        New bovine polypeptides useful for early diagnosis of pregnancy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ť,
                                                                                                                                                                                                                          pregnancy associated glycoprotein; cattle; bovine;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 20; Length 380;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            pregnancy in cattle, goat, sheep, rhinoceros, horse, cat, dog
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; Score 1559.5; DB 20; Length; Pred. No. 3.5e-155; 28; Mismatches 54; Indels
                                                                                                                                                    Bovine pregnancy associated glycoprotein boPAG1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Disclosure; Page 99-100; 136pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Xie S;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               illarity 78.2%;
Conservative 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99WO-US06038
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         98us-0078783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                98US-0106188
                                                                              (first entry)
                                                                                                                                                                                                                                                          early pregnancy diagnosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Roberts RM, Green JA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (UMOR ) UNIV MISSOURI.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           human (all claimed).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 1999-601132/51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Best Local Similarity
Matches 297; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         380 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         N-PSDB: AAZ20191
                                                                                                                                                                                                                                  PAG: DOPAGL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         20-MAR-1998;
                                                                              05-JAN-2000
                                                                                                                                                                                                                                                                                                                                                                                                                      W09947934-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          19-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                28-OCT-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    23-SEP-1999
                                                                                                                                                                                                                                                                                                                                                Bos taurus
AAY 3 2050:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
225282828282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  윤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              141 RAGDAIVHUDRITAKREVIACSDGCAALVDTGTSLIGGFGRVIDNIHKLIGATPRGSKHY 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     This sequence represents belong personney associated altropotetin (PMC) behalf of MAS are structurally failed to pessins. Hought to the the control of the c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61 HPLRNIMNLVYVGNITIGTPPOEFQVVFDTGSSDLAVPS-FCTMPACSAPVWFRQLQSST 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61 LPLRNIRDMLYVGNITIGTPPOGEOVVFDTGSSDLWVPSDFCTSPAGSTHVRFRHFOSST 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             120 FQPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGLEGRNYDGVLGLNY 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121 FRPTTKTFRIIXGSGRMKGVVAHDTVRIGNLVSTDOPFGLSMAEYGLESRRFDGILGLNY 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  180 PHISFSGAIPIFDHLKNQGAISEPVFAFYLSKNKQEGSVVWFGGVDHQYYKGELNWIPLI 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         240 EAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIBGFGRLVNNIHRLIRTRPFDSKHY 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VSCFATKYLPSITFIINGIKYPWTARAYIPKDSRGRCYSAFKENTVRTSRETWILGDAFL 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 301 VSCSVVNTLPSIIFTINGINYPVPAPAYILKDSRGYCYTAFKEORVRRSTESWLLGDVFL 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 MKWIVLLGLVAFSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 MKWLVLLGLVAFSECIVKIPLRRVKTMRKTLSGKNTLNNFLKEHPYRLSHISFRGSNLTT 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        New bowine polypeptides useful for early diagnosis of pregnancy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                78.3%; Score 1571.5; DB 20; Length 380;
78.2%; Pred, No. 1.9e-156;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              51; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          31; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim 74; Page 126-127; 136pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAY32050 standard; Protein; 380 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Xie S;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RRYFSVFDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RLYPSVPDRGNDRIGLARAV 380
                                                                                                                                                                                                                          99WQ-US06038
                                                                                                                                                                                                                                                                                                 98US-0078783.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches 297; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Roberts RM, Green JA,
                                                                                                                                                                                                                                                                                                                                                                                                                      (UMOR ) UNIV MISSOURI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI: 1999-601132/51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          380 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  N-PSDB: AAZ20171
                                                                      W09947934-A2
                                                                                                                                                                                                                          19-MAR-1999;
                                                                                                                                            23-SEP-1999.
                                                                                                                                                                                                                                                                                                 20-MAR-1998;
                                                                                                                                                                                                                                                                                                                                        28-OCT-1998;
Bos taurus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAY32050
ID AAY3;
XX
```

g

ò ò ò ò

g 8 8 à 8 à

RESILT 5 AAY32051

ò R

Page

```
184 ISFSGAIPIFDNLKNQGAISEPVFAILLSKDEQEGSVVMFGGVDHRYYEGELNWVPLIEA 243
                                                     GEWRYHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTRPFDSKHYVS 301
                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 MKWIVLLGLVAFSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 MKMLVLIMLVAPSECIVKIPLRQVKTMRKTLSGKNTLNNFLKEHTYSLSQISSRGSNLF1 60
                                                                                                                                                            302 CFATKYLPSITFIINGIKYPMTARAYIFKDSRGRCYSARKENTVRTSRETWILGDAFLRR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      This sequence represents bovine pregnancy associated glycoprotein (PAG) boPAG17. PAGs are structurally related to pepsins, thought
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PAG; boPAG17; pregnancy associated glycoprotein; cattle; bovine; early pregnancy diagnosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New bovine polypeptides useful for early diagnosis of pregnancy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 20; Length 380;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                59; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bovine pregnancy associated glycoprotein boPAG17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          76.3%; Score 1532.5; DB 2
77.6%; Pred. No. 2.5e-152;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                25; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 76; Page 128-129; 136pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAY32045 standard; Protein; 380 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             99WO-US06038
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              98US-0078783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   98US-0106188
                                                                                                                                                                                                                                                                       362 YFSVFDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                  364 YPSVPDRGNDRIGLARAV 381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches 295; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Green JA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (UNOR ) UNIV MISSOURI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI: 1999-601132/51.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         380 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          N-PSDB; AAZ20172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     05-JAN-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       W09947934-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              20-MAR-1998;
28-OCT-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             19-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       23-SEP-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Roberts RM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Bos taurus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAY32045:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                              AAY32045
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                           8
                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                        q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     # X # X
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      33
                                                     ò
                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    64 RNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLWVPS-FCTMPACSAPVWFRQLQSSTFQP 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          64 RNIKDLIYVGNITIGTPPQEFQVVFDTGSSDFWVPSDFCTSRACSTHVRFRHLQSSTFRL 123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           123 TNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGLEGR-NYDGVLGLNYPN 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           182 ISFSGAIPIPDNLKNOGAISEPVPAFYLSKNKOEGSVVMFGGVDHOYYKGELMWIPLIEA 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4 IVLLGLVAFSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGSNLTIHPL 63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4 LVLLGLVAFSECIVKIPLRRVKTMRNTVSGKNILNNILKEHVYRLSQISFRGSNLTTHPL 63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Word proposed to the control of the 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              New bovine polypeptides useful for early diagnosis of pregnancy
                                                                                                                                                                                                                                                                                                                                                                                                   PAG; boPAG3; pregnancy associated glycoprotein; cattle; bovine;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  77.3%; Score 1553; DB 20; Length 381; 79.4%; Pred. No. 1.7e-154;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                   Bovine pregnancy associated glycoprotein boPAG3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Disclosure; Page 102-103; 136pp; English,
                                                                                                                                                                                 AAY32051 standard; Protein; 381 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        25;
                     361 RLYFSVFDRGNDRIGLARAV 380
360 RRYFSVFDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           99WO-US06038.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Xie
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 98US-0078783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            98US-0106188
                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                              early pregnancy diagnosts.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Green JA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (UNOR ) UNIV MISSOURI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI: 1999-601132/51.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            numan (all claimed).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Best Local Similarity
Matches 300; Conserv.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  381 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             N-PSDB; AA220192
                                                                                                                                                                                                                                                                                             05-JAN-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NO9947934-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           19-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Roberts RM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 20-MAR-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            38-OCT-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Bos taurus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          23-SEP-1999.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
                                                                                                                                                                                                                                       AAY32051;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ouery Match
```

ä

8 8

ò à

à

ò à ò

g a š a g

2

Page

ä

179

239

61 HPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLAVPS-FCTMPACSAPVWFRQLQSST 119 61 LPLRNIWDIFFIGTITIGTPPQEFQVVFDTASSDLMVPSIICNSSTCSTHVRFRHRQSST 120 121 FRLTNKTFGITYGSGRMKGVVVHDTVRIGDLVSTDQPFGLSVAEYGFEGRRFDGVLGLNY 180 240 BAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTRPFDSKHY 299 241 RAGDWSVHVDRITMKGEVIGCSDGCTAMVDTGSSNIQGPGRVIDNIHKLIGATPRGSKHY 300 300 VSCFATKYLPSITFIINGIKYPMTARAYIFKDSRGRCYSAFKENTVRTSRETWILGDAFL 359 301 VSCSAVSALPSVVFTINGINYPVPARATVLKDFTGNCYTTPKEKRVRBSTEFHILGEAPL 360 Gaps This sequence represents borine pregnancy associated glycoprotein of bob DePAGIS. Pakes are structurally related to pepsins, thought to he restricted to ungulate mammals, and are specifically expressed to the the charion or trophecoderm of the placement. PAGS (see 1 MKWLVLLGLVAFSECIFKIPLRRVKTMRKTLSGKNMLNNFLKEHPYKLSGISFRGSNLTT 60 1 MKWIVLLGLVAPSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGSNLTI FOPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGLEGRNYDGVLGLNY 180 PNISFSGAIPIFDNLKNQGAISEPVFAFYLSKNKQEGSVVMFGGVDHQYYKGELNWIPLI PAG; boPAG15; pregnancy associated glycoprotein; cattle; bovine; New bowine polypeptides useful for early diagnosis of pregnancy Length 380; 59: Indels Score 1529.5; DB 20; Pred. No. 5.1e-152; 31; Mismatches 59; I Bovine pregnancy associated qlycoprotein boPAG15 Claim 72; Page 124-125; 136pp; English. AAY32043 standard; Protein; 380 AA. Xie S: 360 RRYFSVFDRGNDRIGLARAV 379 361 RLYFSVFDRGNDRIGLARAV 380 76.2%; 98US-0078783. 99WO-US06038 (first entry) early pregnancy diagnosis. 289: Conservative Roberts RM, Green JA, (UNOR) UNIV MISSOURI WPI; 1999-601132/51 Similarity N-PSDB; AAZ20170. 05-JAN-2000 W09947934-A2 19-MAR-1999; 20-MAR-1998; 28-OCT-1998; 23-SEP-1999. Bos taurus. Query Match Best Local S Matches 289 AAY32043: g g g g g ò g g à à ò ŝ ò à 179 239 HPERNIMNLVYVGNITIGTPPQEEQVVFDTGSSDLWVPS-FCTMPACSAPVWFRQLQSST 119 61 HPLRNIMDMLYVGNITIGTPPQEFQVVFDTGSSDLWVPSVFCQSLACATKVMFIHLHSST 120 300 VSCFATKYLPSITFIINGIKYPMTARAYIFKDSRGRCYSAFKENTVRTSRETWILGDAFL 359 301 VSCSVVNTLPSIIPTINGINYPVPARAYILKDSESNCYTTFKENTVRTSRETWILGDVFP 360 This sequence represents bovine pregnancy associated glycoprotein (PAG) boPAG20. PAGs are structurally related to pepsins, thought to estrictived oungates amends, and are specifically expressed of the charges of the charges of the photonic or tropheroteers of the photonic. Main spaces of bygervariability largely confined to surface appearance of the photonic or tropheroteers of the charges of 121 FRHTQKVFNIKYNFGRMKGLLVYDTVRIGDLVSTDQPPCISLAEVGFDGIPFDGVLGLNY PNISPSGAIPIPDNLKNOGAISEPVFAFYLSKNKQEGSVVMFGGVDHQYYKGELNWIPLI EAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTRPFDSKHY 24.1 OAGGWTVHVDRISMKRKIIACSGGCEALVDTGTALIKGPRRLVNNIOKLIGTTPRGSKHY FOPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDOPFGLSVV RYGLEGRNYDGVLGLNY PAG; boPAG20; pregnancy associated glycoprotein; cattle; bovine; early pregnancy diagnosis. New bovine polypeptides useful for early diagnosis of pregnancy Bovine pregnancy associated glycoprotein boPAG20. Claim 82; Page 133-135; 136pp; English. AAY32048 standard; Protein; 380 AA Xie S; 360 RRYFSVFDRGNDRIGLARAV 379 361 RLYFSVFDRGNDRIGLARAV 380 99WO-US06038. 98US-0078783 98US-0106188 (first entry) Roberts RM, Green JA, (UMOR) UNIV MISSOURI. WPI; 1999-601132/51. 380 AA; N-PSDB: AA220175. W09947934-A2. 05-JAN-2000 19-MAR-1999; 20-MAR-1998; 28-OCT-1998; 23-SEP-1999, Bos taurus.

AAY32048;

AAY32048 ID AAY3 RESULT 7

Sequence

```
ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLWVPS-FCTMPACSAPVWFRQLQSST 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 120 FOPTHKTPITYGSGSMKGFLAYDTVRIGDLVSTDOPPGLSVVBYGLEGRNYDGVLGLNX 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PNISFSGAIPIFDNLKNQGAISEPVFAFYLSKNKQEGSVVMFGGVDHQYYKGELNWIPLI 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    240 EAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTRPFDSKHY 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VSCFATKYLPSITFIINGIKYPWTARAXIFKDSRGRCYSAFKENTVRTSRETWILGDAFL 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                       1 MKWLVLLGLVAFSECVVKIPLRRVKTMTKTLSGRNMLNNFLKEHAYRLSQISFHGSNLTI 60
TATADOSTS SI SE ARBITHY SIGNED AS INTERGED OF PROPERTY OF THE REGION OF PROPERTY OF THE REGION OF THE REGION OF THE REGION OF THE RESIDENCE OF
                                                                                                                                                                                                                                                                                                                                                                                                          1 MKWIVLLGLVAFSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PHISPSGAIPIFDKLKNOGAISEPVFAFYLSKDBOBGSVVMFGGVDHRYYKGELKWYPLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PAG; boPAG18; pregnancy associated glycoprotein; cattle; bovine; early pregnancy diagnosis.
                                                                                                                                                                                                                                                                                            DB 20; Length 380;
                                                                                                                                                                                                                                                                                                                                                      56: Indels
                                                                                                                                                                                                                                                                                            Score 1526.5, DB 20
Pred. No. 1.1e-151;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Bovine pregnancy associated glycoprotein boPAG18
                                                                                                                                                                                                                                                                                                                                                      26: Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAY32046 standard; Protein; 381 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Xie S:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      360 RRYFSVFDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   76.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  95WO-US06038
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            98US-0078783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         98US-0106188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                         Best Local Similarity 78.2
Matches 297; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Green JA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             UMOR ) UNIV MISSOURI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 1999-601132/51.
N-PSDB; AA220173.
                                                                                                                                                                                                                                        380 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   W09947934-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    05-JAN-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  19-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            20-MAR-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         28-OCT-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Roberts RM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        23-SEP-1999.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         30s taurus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAY32046;
                                                                                                                                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAY32046
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       25252332325223252525252525
     8.5.5.5.5.5.5.5.5
                                                                                                                                                                                                                                                                                                                                                                                                          ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     윱
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    윱
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            윰
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
```

```
This sequence represents borize preparency associated sjycopocialion (Problem 1994) and a sea structurally related to pestine. Hought to the factor of representation of the piecena. And a sea way a sequence with regions of representation to the spiritual problem of the piecena. And a sea way a sequence with regions of pestine should be set to the spiritual problem of the piecena of the piecena
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61 HPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLWVPS-FCTMPACSAPVWFRQLQSST 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                120 FQPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGLEGRNYDGVLGLNY 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   300 VSCFATKYLPSITFIINGIKYPMTARAYIFKDSRGRCYSAFKENTVR-TSRETWILGDAF 358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 MKWIVLLGLVAPSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 MKWLVLIGLVAPSECIVKIPLRRVKTWRKTLSGKNII,NNFLKEHAYRLSGISSCGSNLTF 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61 HPLRNIKDRLYVGNITIGTPPQEPQVIPDTGSSDLMVTSVFCTSPTCSTHVMFRHFDSST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          180 PNISPSGAIPIFDNLKNQGAISEPVFAFYLSKNKQEGSVVMFGGVDHQYYKGELNWIPLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181 PKLSFSGAIPIFDNLRNOGAISEPVFAFYLSKDEORGSVVAFGGVDHRYYKGELNMIPLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                240 EAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTRPFDSKHY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               pregnancy associated qlycoprotein; cattle; bovine;
                           New bovine polypeptides useful for early diagnosis of pregnancy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 381;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  26,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; Score 1526; DB 20;
; Pred. No. 1.2e-151;
30; Mismatches 56;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Bovine pregnancy associated glycoprotein boPAG21
                                                                                                 Claim 78; Page 130-131; 136pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAY32049 standard; Protein; 380 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        361 LRRYFSVFDRGNDRIGLARAV 381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         359 LRRYFSVFDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 76.0%;
Best Local Similarity 76.9%;
Matches 293; Conservative 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           99WO-US06038
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         early pregnancy diagnosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             381 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PAG; DOPAG21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           19-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          05-JAN-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      W09947934-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            23-SEP-1999.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Bos taurus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAY32049;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAY32049
ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ð
```

õ

```
61 HPLRNIMNLVYVGNITIGTPPQEPQVVFDTGSSDLMVPS-FCTMPACSAPVWFRQLQSST 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   120 FQPTNKTFTTTYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGLEGRNYDGVLGLNY 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121 FRLINKTESITYGSGRIKGVVAHDTVRIGDLVSTDQPFSLSMAEYGLEHIPFDGILGLNY 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181 PNVSSSGAIPIFDKLKNQGAISEPVFAFYLSKDKQEGSVVMFGGVDHRYYRGKLMWVPLI 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241 OAGNWIIHMDSISIERKVIACSGGCVAFVDIGTAFIEGPRPLVDNMQKLIRARPWRSKHY 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  300 VSCFATKYLPSITFIINGIKYPMTARAYIFKDSRGRCXSAFKENTVRTSRETMILGDAFL 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         301 VSCSAVNTLPSITFTINGINYPVPGRAYILKDSRRRCYSTFKEIPLSPTTEFWMLGDVFL 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 MKWLYVLGLVAFSBCIVKIPLRRYKTMRKALSGKNWLNNPLKEHAYRLSQ1SFRGSNLTS 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 MKWIVLLGLVAFSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (MA) beading a sequence research bown or appearance according algorithm (MA) beading. A feet are structurally extend to peptina, thought the feet form or unconsequence to the discussion. That yee smead AMATODS-59, are highly discussed to the discussion. That yee smead AMATODS-59, are highly discussed to the discussion with regions of AMATODS-59, are highly discussed to the discussion. With regions of Contract has a feet and a feet a feet a feet
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  180 PNISFSGAIPIFDNLKNOGAISEPVFAFYLSKNKQEGSVVMFGGVDHQYYKGELNWIPLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          240 EAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIBGPGRLVNNIHRLIRTRPFDSKHY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              New bovine polypeptides useful for early diagnosis of pregnancy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    75.1%; Score 1508.5; DB 20; Length 380; 75.8%; Pred. No. 8.2e-150; 1.0e 33; Mismatches 58; Indels 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 80; Page 131-133; 135pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAY32041 standard; Protein; 380 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         361 RLYFSVFDRGNDRIGLARAV 380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 360 RRYFSVFDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                               99WO-US06038
                                                                                                                                                                                                                                                                                                                                                       98US-0078783
                                                                                                                                                                                                                                                                                                                                                                                               98US-0106188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Green JA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (UMOR ) UNIV MISSOURI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 1999-601132/51.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    380 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              N-PSDB: AAZ20174
                                                                                                                       W09947934-A2
                                                                                                                                                                                                                                                                       19-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                       20-MAR-1998;
28-OCT-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Roberts RM,
                                                       Bos taurus.
                                                                                                                                                                                               23-SEP-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches 288;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAY32041
ID AAY
               a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          This sequence represents bother prepared saccinetal pircoprotein (Mon bowda). When are structurally related to pepting, thought to the forecast of the forecas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61 HPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLWVPS-FCTMPACSAPVWFRQLQSST 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   180 PNISFSGAIPIFDNLKNQGAISEPVFAFYLSKNKQEGSVVMFGGVDHQYYKGELNWIPLI 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181 PDESFSEALPIFOKLKNEGAISEPIFAFYLSKKKREGSVVWFGGVDHRYYKGELNWYPLI 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VSCFATKYLPSITFIINGIKYPMTARAYIFKDSRGRCYSAFKENTVRTSRETWILGDAFL 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 MKWIVLLGLVAFSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            24 D EAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTRPFDSKHY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241 EEGDWSVRMDGISMKTKVVACSDGCEAVVDTGTSLIKGPRKLVNKIQKLIGATPRGSKHY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    120 FOPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGLEGRNYDGVLGLNY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PAG; boPAG19; pregnancy associated glycoprotein; cattle; bowine; early pregnancy diagnosis.
                                                                                                                                                                                                                                                                                                                                                                               New bowine polypeptides useful for early diagnosis of pregnancy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 20; Length 380;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             75.3%; Score 1511.5; DB 20; Lengt
76.6%; Pred. No. 4e-150;
tive 30; Mismatches 58; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Bovine pregnancy associated glycoprotein boPAG19.
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 84; Page 135-136; 136pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAY32047 standard; Protein; 380 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  360 RRYFSVFDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          98US-0078783.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             291; Conservative
                                                                                                                                                                                               Green JA,
                                                                                                                       (UNOR ) UNIV MISSOURI
                                                                                                                                                                                                                                                               WPI; 1999-601132/51.
N-PSDB; AA220176.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     380 AA
20-MAR-1998;
28-QCT-1998;
                                                                                                                                                                                       Roberts RM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 05-JAN-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAY32047:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAX32047
```

ò g g ò දි ŝ a ò ò 8525558555

```
Claim 62; Page 106-107; 136pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence
                                                                   8
                                                                                                                                                                                                                                                                                          X 2 X 2 X X
                                                                                                                                                                                                                                                                                                                                                                                                                   a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                180 PNISFSGAIPIFBNLKNOGAISEPVFAFYLSKNKQEGSVVMFGGVDHQYYKGELNWIPLI 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241 QAVDWSVHVDRITHNREVIACSEGCAALVDTGSSNIGGPRRLIDNIQRIGATPRGSKYY 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61 HPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLWVPSF-CTMPACSAPVWFRQLQSST 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           120 FOPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVBYGLEGRNYDGVLGLNY 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     240 EAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTRPFDSKHY 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VSCFATKYLPSITFIINGIKYPMTARAYIFKDSRGRCYSAFKENTVRTSRETWILGDAFL 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 MKWLVVLGLVAFSECIVKIPLRRVKTWRKTLSGKNWLNNFLKEDPYRLSQISFRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 MKWIVLLGLVAFSECIVKIPLROVKTMRKTLSGKNMLKNFLKEHPYRLSGISFRGSNLFI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                in sequence represents bound appraiser, secured 19, 1900 in bohom. A many sequence represents bound are settlemently related to positive, thought to the chostnoor of recibercheme to the piscents. Their described with the chostnoor of recibercheme to the piscents. Their described with the chostnoor of recibercheme to the piscents with regions of the chostnoor of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WILSWSKAMPIFDKLKNEGAISEPVFAFYLSKEKREGSVVRFGGVDHRYYRGELKWYPLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FRPINKTFRIIYGSGRMNGVIAYDTVRIGDLVSTDOPFGLSVEEYGFAHKRFDGILGLNY
                                                                                                                                                   PAG; boPAG7v; pregnancy associated glycoprotein; cattle; bovine; early pregnancy diagnosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New bowine polypeptides useful for early diagnosis of pregnancy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            75.0%; Score 1505.5; DB 20; Length 380;
74.5%; Pred. No. 1.7e-149;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         57; Indels
                                                                                                           Sovine pregnancy associated glycoprotein boPAG7v.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         39; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim 68; Page 120-122; 136pp; English.
                                                                                                                                                                                                                                                                                                                                                                                            98US-0078783.
                                                                                                                                                                                                                                                                                                                                                    99WO-US06038
                                                              05-JAN-2000 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches 283; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Green JA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                (UMOR ) UNIV MISSOURI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                API; 1999-601132/51.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   380 AA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       N-PSDB; AAZ20168.
                                                                                                                                                                                                                                                               W09947934-A2.
                                                                                                                                                                                                                                                                                                                                                    19-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                            20-MAR-1998;
28-OCT-1998;
                                                                                                                                                                                                                                                                                                       23-SEP-1999.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Roberts RM,
                                                                                                                                                                                                                       30s taurus.
                      AAY32041;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
```

```
New bowine polypeptides useful for early diagnosis of pregnancy
                                                                                                                                                                                                                                                                                                    PAG; boPAG6; pregnancy associated glycoprotein; cattle; bovine;
                                                                                                                                                                                                                                                              Bovine pregnancy associated glycoprotein boPAG6
                                                                                                                                         AAY32038 standard; Protein; 379 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Xie S;
360 RRYPSVFDRGNDRIGLARAV 379
                    361 RLYFSVFDRGNDRIGLARAV 380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             98US-0078783.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8E090SD-0M66
                                                                                                                                                                                                                         (first entry)
                                                                                                                                                                                                                                                                                                                             early pregnancy diagnosis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Roberts RM, Green JA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (UNOR ) UNIV MISSOURI.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 1999-601132/51.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           N-PSDB; AA220165
                                                                                                                                                                                                                    05-JAN-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   19-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20-MAR-1998;
28-OCT-1998;
                                                                                                                                                                                                                                                                                                                                                                                                        W09947934-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                  23-SEP-1999.
                                                                                                                                                                                                                                                                                                                                                                  Bos taurus.
                                                                                                                                                                               AAY32038;
```

This sequence represents bother preparion yearchied plycopicetin (PAD) borbod. Mos are structurally related to pepsins, hought to be festificated to uppels memant, and are specifically copressed MATIORS 500 tem highly diverse in sequence. With resistors of hypervaliability Interply confined to surface expected long. Mypervaliability Interply confined to surface expected long assected Rosa (eg. borbod) that are products of invasive binnelset expensed lightly on early despending the time of the sequence of the second of th rhinoceros, horse, cat, dog and human (all claimed).

Length 379; 73.9%; Score 1484; DB 20; 74.7%; Pred. No. 3.1e-147; 34; Mismatches Matches 284; Conservative Sest Local Similarity Query Match

379 AA;

ä

Gaps 61 HPLRNIMNLVYVGNITIGTPPOEFOVYFDTGSSDLAVPS-FCTMPACSAPVAFROLOSST 119 1 MKWIVLLGLVAFSECIVKIPLROVKTMRKTLSGKNMLKNFLKEHPYRLSOISFRGSNLTI 60 ć 60; Indels

180 PNISFSGAIPIPDNLKNOGAISEPVFAPFILSKNKQEGSVVMFGGVDHQYYKGELNWIPLI 239

e g à g Š

à

6

1 MKWIVLGLVAPSECIVKIPLROVKTMRKTLSGKNNLKNPLKEHPYRLSOISFRGSNLT1 60

240 BAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTRPFDSKHY 299 300 VSCFATKYLPSITFIINGIKYPMTARAYIFKDSRGRCYSAFKENTVRTSRETWILGDAFL 359 HPLENIKNLVYVGNITIGTPPOEFOVVFDTGSSDLWVPS-FCTMPACSAPVWFROLOSST 119 120 POPTNKTFTITYGSGSMKGPLAYDTVRIGDLVSTDQPFGLSVVEYGLEGRNYDGVLGLNY 179 this sequence represents broize preparey associated plycoprotein (FW) lobbid. These are structurally related to pessins, thought to be restricted to unsultant amments, and are specifically expressed in the choricon or trophestodem of the placents. Moss (see MAY2025) are shally diverse in segments. Moss (see MAY2025) are shally diverse in segments. Moss (see Expression 11 and 12 1 MKWLVLLGLLTSSECIVILPLTKVKTMRKTLSEKNMLNNFLKEOAYRLSOISSRGSNITI 60 61 HPLENINDANYVGKITIGTPPQEEQVVPDTGSSELWVPSVFCPSSACSTHIRFRHLESST 121 SGLTQKTFSITYGSGSTKGFLAYDTVRIGDLLSTDQEFGLSMERHGFEDLPFDGVLGLNY 180 PNISFSGAIPIFDNLKNOGAISEPVFAFYLSKNKOEGSVVMFGGVDHOYYKGELNWIPLI 339 QAGEWSLHMDRISWKRKVIACSGCGAFYDTGTSLILGPRRLVNIOKLIGATPGGSEHY New bovine polypeptides useful for early diagnosis of pregnancy PAG; boPAG4; pregnancy associated glycoprotein; cattle; bovine; early pregnancy diagnosis. Bovine pregnancy associated glycoprotein boPAG4 Claim 58; Page 103-105; 136pp; English. AAY32036 standard: Protein: 380 AA. 98US-0078783. 350 RRYPSVFDRGNDRIGLAR 377 359 RLYPSVFDRGNDRIGLAG 376 99WO-US06038 (first entry) Roberts RM, Green JA, (UMOR) UNIV MISSOURI WPI; 1999-601132/51. 05-JAN-2000 19-MAR-1999; W09947934-A2 20-MAR-1998; 28-OCT-1998; 23-SEP-1999. Bos taurus. 용

```
of PAGs allows detection of pregnancy in cattle, goat, sheep,
```

ď		380;	
of PAGS allows detection of pregnancy in cattle, goat, sheep, rhinoceros, horse, cat, dog and human (all claimed).		Query Match 69.1%; Score 1388.5; DB 20; Length 380; Best Local Similarity 71.1%; Pred. No. 3.5e-137;	-1-1
goa .		ć.	+
clair		DB -	0
in ce		3.56	oppos
nancy		Te 13	t con
pregrand and		Scol	. 94
n of dog	•	13	
ectio cat,		71	10+4
det.	Ä,	rity	noon
llows s, ho	380	imile	3
AGS a	ance	atch	270
CC of PAGS allows dete	Seque	ary Ma	chee
883	So	Oue	Mat

ä

-	1 MKWIVLLGLVAFSECIVKIPLRQVKTWRKTLSGKNMLKNFLKEHPYRLSQISFRGSNLTI 60	09
1	1 MKWLVLLGLVAFSECIVKIPLRRVKTWTKTLSGKNMLNNFVKEHAYRLSGISFRGSNLTI 60	09
61	61 HPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLAVPS-FCTMPACSAPVHFRQLQSST 119	119
19	61 HPISNTRDEPVVGNTTCTDEPORTOTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTT	00.1

g

용 ò Search completed: April 2, 2003, 17:44:39 Job time: 77 secs

¹²⁰ FOFTHKTFTITYGSGSHKGFLAYDTVRIGDLYSTDQFFGLSVVEYGLBGRNYDGVLGLNY 179
121 FRISHFFFFTYGSGREALWYHOTWEIGDLYSTDGOFGLCHESGFBARFGVALGSY 180
FRISHFFFFFFFFFTYGSGREALWYHOTWEIGDLYSTDGOFGLCHESGFBARFGVALGSY 180 180 PNISTSGALDIEDNIKNOCALEEPYRAFTISKNKOBGSVWPGGVDAOYYKGELMNIPLI 239 181 TNISPSGALPIYYKIKNESAISSPPRAFTISKOERGSKYWFGGAHRFYKGELMNIPLM 240 à ò g

²⁴⁰ EAGEMEVHADRISHKREVIACSDGCEALVHTGTSHIBGEGRILVNNIHRLIRTRPEDSKHY 299
11.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 용 à

g ò g

³⁶¹ RLYPSVFDRRKDRIGLATRY 380 360 RRYFSVFDRGNDRIGLARAY 379 à

5.1.4_p5_4578 Compugen Ltd.
version - 2003
GenCore (c) 1993
Copyright

model	April 2, 2003, 17:16:54 ; Search time 22 Seconds (without alignments) 1656.134 Million cell updates/sec	And the state of t
OM protein - protein search, using sw model	03, 17:16	Perfect score: 2008
arch,	2, 20(73-164
rotein se	April	US-09-273-164-32 2008
tein - pa		Fitle: US-0: Perfect score: 2008
ord Mc	Run on:	ritle: Perfect

Gapop 10.0 , Gapext 0.5 BLOSUM62 Scoring table:

Potal number of hits satisfying chosen parameters: 283224 seqs, 96134422 residues Searched:

Minimum DB seq length: 0 Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Database

Pred. No. is the number of results predicted by chance to have a core greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution. piri:

SUMMARIES

		Description		pregnancy-specific	pregnancy-specific	prequancy-specific	aspartic proteinas	pregnancy-associat	pepsin (EC 3.4.23.	prequancy-associat	pepsin A (BC 3.4.2	pepsin A (BC 3.4.2	pepsinoden A - com	pepsin A (EC 3,4.2	pepsin A (BC 3.4.2	pepsin A (BC 3.4.2	pepsin A (BC 3.4.2	pepsin (BC 3.4.23.	pepsin (EC 3.4.23.	pepsin (BC 3.4.23.	pepsin A (BC 3.4.2	pepsin (EC 3.4.23.	BC 3.	pepsinoden A - Afr	pepsinoden A - bul	pepsin (BC 3.4.23.	pepsin A (BC 3.4.2	cathebsin E (EC 3.	ω	prochymosin - comm	pepsin A (BC 3.4.2	chymosin (BC 3.4.2
		a		B41545	A41545	T10264	I45856	146617	A38302	146616	S19684	PEHU	JC7245	A30142	PEMOAJ	B30142	PEMOAR	B38302	E38302	D38302	S19682	C38302	PEPG	JC7574	JC7575	A41443	JC4870	A34401	566465	JC7247	PECH	147176
		DB	:	2	2	7	7	2	2	7	-	-	~	2	-	2	-	~	7	~	-	2	-	~	~	~	N	~	2	~		~
		Match Length DB		380	383	380	376	387	389	389	388	388	387	388	388	388	388	387	387	387	388	387	386	384	385	383	334	396	398	381	382	380
	r,	ch	i		6	2	57.2	2.4	7.5	6.7	0	0	9.8	2.7	9	٥	S	'n	'n	6	7	8.	7	2.7	5.0	0.2	'n	5.5	8.2	0	s.	0
æ	Query	Мат	i	7	69	8	5	52	4	4	4	*	4	*	*	4	4	4	45	*	4	4	÷	42	2	4	38	38	38	38	37	37
		Score		1559.5	1404	1375.5	1148.5	1053	953	938	924.5	923.5	920	918.5	915.5	915.5	914.5	914	914	606	906.5	899	886.5	826.5	843	806.5	774	772.5	767.5	762.5	753.5	743.5
	Result	No.		1	7	3	4	'n	9	7	80	6	10	11	12	13	14	15	16	17	18	. 19	20	21	22	23	24	25	56	27	38	59

cathepsin E (EC 3.	chymosin (EC 3.4.2	dastricsin (BC 3.4	pepsinogen C - com	gastricsin (EC 3.4	pepsinogen C - Afr	cathepsin E (EC 3.	qastricsin (BC 3.4	gastricsin (BC 3.4	pepsin C (EC 3,4.2	cathepsin D (BC 3.	cathensin D (EC 3.	cathebsin D (BC 3.
S36865	CMSHB	A39314	JC7246	A24608	JC7573	S66466	B43356	PEMOCU	JE0371	151185	KHMSD	KHRTD
~-	-	40	~	٧.	8	ď	C4	н	ď	8	-	н
396	381	384	388	385	383	365	394	377	389	398	410	403
36.8	35.5	34.8	34.7	33.6	33.9	33.7	33.3	33.2	32.8	32.3	31.5	30.9
738.5	713.5	699.5	696.5	681.5	9	677	668.5	667.5	629	648	632.5	621
30	30	36	32	37	38	39	40	41	45	43	44	4.5

ALIGNMENTS

C:Species: Bos primigentus taurus (cattle) C:Date: 30-Jun-1992 #sequence_revision 30-Jun-1992 #text_change 22-Jun-1999 prégnancy-specific antigen precursor - bovine

Assession management of the state of the sta

Gaps DB 2; Length 380; 77.7%; Score 1559.5; DB 2; Length 378.2%; Pred, No. 1.6e-122; Live 28; Mismatches 54; Indels Query Match
Best Local Similarity 78,29
Matches 297; Conservative

ä

61 HPERNIMNEVYVGNITIGTPPQEFQVVFDTGSSDLWVPS-FCTMPACSAPVWFRQLQSST 119 61 HPLRNIKDLVYMGNITIGTPPQEFQVVFDTASSDLWVPSDFCTSPACSTHVRFRHLQSST 120 120 FOPTNKIFFIITYGSGSMKGFLAYDIVRIGDLVSTDOPFGLSVVEYGLEGRNYDGVLGLNY 179 121 FRITHKTFRITYGSGRAKGVVVHDTVRIGHLVSTDQPFGLSIBEYGFEGRIYDGVLGLNY 180 180 PNISFSGAIPIFBNLKNOGAISEPVFAFYLSKNKOEGSVVMFGGVDHQYYKGELNWIPLI 239 240 EAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIBGPGRLVNNIHRLIRTRPFDSKHY 299 300 VSCFATKYLPSITFIINGIKYPWTARAYIFKDSRGRCYSAFKENTVRTSRETWILGDAFL 359 301 VPCSEVNTLPSIVPTINGINYPVPGRAYILKDDRGRCYTTFOBNRVSSSTETWYLGDVFL 360 1 MKMLVLLGLVARSECIVKIPLRRLXTMRNVVSGKNMLNNFLKEHAYSLSGISFRGSNLTT 60 1 MKWIVLLGLVAFSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSGISFRGSNLTI 60 RRYFSVFDRGNDRIGLARAV 379 ð g ò ò a g ó à ò ò

361 RLYFSVFDRGNDRIGLARAY 380

RESULT 2 A41545

Length 383; 69: Indels

69.9%; Score 1404; DB 2; 71.8%; Pred. No. 1.5e-109;

35; Mismatches

275; Conservative

Matches

90 à a à 8 ŝ à

A; Wolecule type: mRNA A; Residues: 1-383 < XIED A; Cross-references: GB: M73961 C; Superfemily: pepsin Query Match Best Local Similarity

~

Page

```
REXIES, S.T. LOGI. BORGEL, R.J.; Beckers, J.F.; Roberts, R.M.
BIGI. BROCK ST. LIST.33, 1954
A. A. Rieteneon maker 1970sprotein of the aspartic proteinase gene family expressed in bow A. Rieteneon maker 19856 WIID-59139025; PHID:7534122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             saparite proteinase - bovo.
C.Species: Ros primidentus taurus (cattle)
C.Species: 195-04-1196 sacquence_revision 13-0ct-1996 #text_change 22-Jun-1999
C.Accossion: 145856
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      118 FREVGSPITIFYGSGIIOGFLGSDTVRIGNLVSPBOSFGLSLEEFGFDSLPFDGILGLAF 177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    180 PNISFSGAIPIFDNLKNOGAISEPVFAFYLSKNKQEGSVVMFGGVDHQYYKGELNWIPLI 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          240 BAGEWRVHMDRISMKRTVIACSDGCBALVHTGTSHIBGPGRLVNNIHRLIRTRPFDSKHY 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61 HPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLAVPS-FCTMPACSAPVWFRQLQSST 119
                                                                                                                                                 61 LPLRNMKDIFYVGNITIGTPPPEEQVVFDSTSSDL#VPSIFWNSSTCSTLVRFKHRQSST 120
                                                                                                                                                                                                                                                              120 FOPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDOPFGLSVVEYGLEGRNYDGVLGLNY 179
                                                                                                                                                                                                                                                                                                                                                                          121 FRTTNKTEWITYGAGTMKGVVAHDTVRIGDLVSIDQPFGLSMAEYGFMDRRFDGILGLNY 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   180 PNISFSGAIPIFDNEKNÖGAISEPVFAFYLSKNKQEGSVVMFGGVDHQYYKGELNWIPLI 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            240 EAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIBGPGRLVNNIHRLIRTRPFDSKHY 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  30 VSCFATKYLPSITFIINGIKYPMTARAXIFKDSRGRCYSAFKENTVRTSRETWILGDAFL 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301 ISCSAUNTLESIETINGINY PUPAGAYILKGSTGHCYTAFRAKRYRTSTESWYLGDVFL 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61 HPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLAVPSF·CTMPACSAPVWFRQLQSST 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        58 HPLRNYLDTAXVGNITIGTPPQEFRVYFDTGSANLAVPCITCTSPACYTHKTFNPQNSSS 117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              120 FOPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGLEGRNYDGVLGLNY 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 178 PAMGIEDTIPIFDNIMSHGAFSEPVFAFYLNTNKPEGSVVMFGGVDHRYYKGELNWIPVS 237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      238 QTSHWQISMNNISMNGTVTACSCGCBALLDTGTSMIYGPTKLVTNIHKLMNARLENSEYV 297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               300 VSCFATKYLPSITFIINGIKYPMTARAYIFKDSRGRCYSAFKENTVRTSRETWILGDAFL 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 MKWIVLLGLVAFSECIVKIPLRQVKTMRKTLSCKNWLKNFLKEHPYRLSQISFRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 MKWLVLLGLVALSECIVILPLKKMKTLRETLREKNLLNNFLEBQAYRLSK---NDSKITI 57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A.:Woldenie Yppe mRNA
A.:Residues: 1.376 < XIED
A.;Cross-references: GB:1.06151; NID:g162695; PIDN:AAA65822.1; PID:g797279
C.Superfamily: pepsin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 376;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             99: Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        57.2%; Score 1148.5; DB 2;
59.5%; Pred. No. 3.4e-88;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Status: preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             50; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 360 RRYFSVFDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     360 RRYPSVFDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      357 ROYFSVFDRKNRRIGLAPAV 376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          361 RLYFSVFDRGNDRIGLAPAM 380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Local Similarity 59.54
Matches 226; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                          a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    융
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ð
                                                                                                                                                                                                                                                              ð
prognatory expection and prognation in procured to themposition and and an accompanies of the content of the prognation of the prognation of the prognation of the procured and accompanies of the procured accompanies of the procured and accompanies of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       projection; projection takenge for percentor - the projection; pro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     [2] SSTERFINDIFRIYEGSGTWRGFVAHDTVRIGDLVSTDQPFGLIFLESWLDGIPFDGILG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61 HPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLWVPSF-CTMPA---CSAPVWFRQLQ 116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61 HPLRNIMDMLYVGNITIGTPPQEPGVVFDTGSSDLLVPSINCLSPTKRPCSKQDKFKHHQ 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             117 SSTFQPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGLEGRNYDGVLG 176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   177 LNYPNISFSGAIPIFDNLKNQGAISEPVFAFYLSKNKQBGSVVMFGGVDHQYYKGELNWI 236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181 LNYPKISFSGAIPIFDKLKNEGAFSEPVFAFYLNKDKQEGSVVMFGGVDHRYYKGELNWV 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        237 PLIEAGEWRYHMDRISMKRTVIACSDGCEALVHTGTSHIBGPGRLVNNIHRLIRTRPFDS 296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241 PLIHPGEMSIPLDRISMRRKVIACSGGGEALVGTGTSLILGPRYVENIOKHIGATOOCF 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              297 KHYVSCFATKYLPSITFIINGIKYPWTARAYIFKDSRGRCYSAFKENTVRTSRETWILGD 356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       301 EYFVSCSAVYALPSIVFTINGINFPVPPQAYLVKDSRGGCYSPRQVRANPSAEWMILGD 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 MKMLVLLGLVAFSECIFKVPLRRLKTMRKTLSGNNMLNNVLKEYPYRLPOISFRDSNVTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 MKWLVLLGLVAFSECIVKIPLRRVKTMRNTLSGKKWLNSFLKEHAYRLSGISFRASNETI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 MKWIVLLGLVAFSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 MKWIVLIGLVAFSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSGISFRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4
```

g q à a ò

ë

68.5%; Score 1375.5; DB 2; Length 380;

44; Mismatches 72;

69.28;

Best Local Similarity 69.29 Matches 263; Conservative

Query Match

Indels 72;

Wed Apr

Page

```
members of the aspartic prot
                                                               ë
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           pregnancy-associated glycoprotein – pig
C.Spedies: SNs scrofe domestica (domestica pig)
C:Date: 21-reb-1997 #sequence_revision 21-reb-1997 #text_change 22-Jun-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121 SSTELVSGRPINIVYGSGRMSGFLAYDTVQIAGLVDVAQAPGLSLQEPGKFMEYAVFDGI 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241 HWVPVSRPLYMOLAVDRISMNGBAIGCDSGCOGIVDTGTSLLIGPRDPVLNIOKIINAQH 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      301 SHGGEYIIDCDTISTLPDIIFTIDGVDYPVPASAYIRKSSVHGCYSNFDESAAHESEPYE 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61 PKISCLRLANYLDMVYVGNITIGTPPQLFSVIFDTASSDLAVPSNQCHSRACVTHRSFNP 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     115 LOSSTFOPTNKTFTTTTGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVE--YGLEGRNYD 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121 TLSSTROSSNRTVKLAPHSGLVSGLLGYDTVQIGRFKSENQAFGLSQSEPVKELENAPFD 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             173 GVLGLNYPNISFSGAIPIFDNLKNQGAISEPVFAFYLSKNKQEGSVVMFGGVDHQYYKGE 232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  233 INWIPLIEAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTR 292
                                                                                                                                                                                                                                                                                                                                                           58 LTIHPLRNIMNLVYVGNITIGTPPQEFQVVPDTGSSDLWVPS-FCTMPACSAPVWFRQLQ 116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61 VSFEPLRNYLDLAYIGIISIGTPPQEFKVVLDTGSADLWVPSIYCSSPACGKHNTFNPLL 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1.7 SSTFOPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDOPFGLSVVEYG--LEGRNYDGV 1.74
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       175 LGLNYPNISFSGAIPIFDNLKNOGAISEPVFAFYLSKNKOBGS-VVMFGGVDHOYYKGEL 233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               234 NWIPLIEAGEWRVHMDRISMKRTVIACSDGCEALVHIGTSHIEGPGRLVNNIHRLIRIRP 293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       294 FDSKHY-VSCFATKYLPSITFIINGIKYPMTARAYIPKDSRGRCYSAFKENTVRTSR--E 350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            57 -NLTHPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLAVPS-FCTMPACSAPVWFRQ 114
                                                                                                                                                                                                                  1 MKWLGLLGLVALSECLVIIPLMKVKSMRENLRENDILLDYLEKHPYRFTYKLLSGQDPD 60
                                                               Gaps
                                                                                                                                                              1 MKWIVLLGLVAFSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSGISFRGS---N 57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 MKWLVILGLVALSECLVIIPLTKVKSIRENLREKDLLINFLKEHPYNMIQKFGLKGSLCS 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Cross-references: GB:L34360; NID:q508682; PIDN:AAAB1530.1; PID:q1066344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 MKWIVLLGLVAFSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQ-ISFRGS---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; Score 938; DB 2; Length 389;
; Pred. No. 1.4e-70;
67; Mismatches 122; Indels 10;
                                                               101
                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RiStafranska B.: X19. S.; Green, J.; Roberts, R.M.
BBOL Repord, S.J. 129. 1996.
A.THILLS: POCTINE presentery-associated glycoproteins: New
A.Reference number: 146616; WIDD:95399486; PMID:7669851
                                                    61: Mismatches 124;
Pred. No. 7.6e-72;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A.Status: preliminary; translated from GB/RMBL/DDBJ
A:Molecule type: DNA
A:Residues: 1-389 <SZA>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               351 TWILGDAFLRRYFSVFDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              361 VWVLGDVFLRLYFTVFDRANNRIGLAPAV 389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 46.78;
          49.98;
          Best Local Similarity 49.9%
Matches 194; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             C; Superfamily: pepsin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C;Accession: I46616
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches 190:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .
90
                                                                                                                                                              ò
                                                                                                                                                                                                                                                  용
                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Anities in proctine preparative associated glycoproteins new members of the aspartic protein 
Antonession 146615, MUDI-95399486, PMID-7669831
Antonession 146617
Antonession 146617
Antonession 146617
Antonession 146817
Anto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    pepain (D. 3.4.3.) P. preventor - rabbit.

Special of C. 3.4.3. P. preventor - rabbit.

Concernation -
                                                                                                                                                                                             121 SHSSTFHDRGKSIKLEYGSGKNSGFLQQDTVRIGQLTSTGQAFGLSKEETGKAFEHAIFD 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              233 LNWIPLIEAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTR 292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      56 SNLTIHPLRNIMNLYYVGNITIGTPPOEFOVVFDTGSSDLMVPS-FCTMPACSAPVWFRO 114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61 OKFSYQPLRNYLDMYYVGNISIGTPPQQFSVVFDTGSSDLMVPSIYCKSKACVTHRSFNP 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       115 LOSSTFOPTNKTFTTTYGSGSMKGFLAYDTVRIGDLVSTDOPFGLSVVBYG--LEGRNYD 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               173 GVLGLNYPNISFSGAIPIFDNLKNOGAISEPVFAFYLSKNKORGSVVMFGGVDHOYYKGF 232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          293 PPDSKHYVSCFATKYLPSITFIINGIKYPMTARAYIFKD-SRGRCYSAFKE--NTVRTSR 349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   299 HFEKEYVVPCNARKALPDIVFTINNVDYPVPAQAYIRKNANNNRCYSTFEDIMDTL-NQR 357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 52.4%; Score 1053; DB 2; Length 387;
Best Local Similarity 54.0%; Pred. No. 3.3-e98;
Matches 210; Conservative 57; Mismatches 108; Indels 14; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A.Cross-references: (B-134361; NID:9508683; PIDN:AAA81531.1; PID:91006345
C.Gementos:
A.Geme PAG.
S.Superfamily: pepsin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 MKWIVLLGLVAFSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYR----LSQISFRG 55
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 MKWLVILGLVALSDCLVMIPLTKVKSVRESLREKGLLKNFLKEHPYNMIQNLLSKNSSHV 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 389;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3; Keywords: aspartic proteinase; hydrolase; protein digestion
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 953;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  350 ETWILGDAFLRRYFSVFDRGNDRIGLARA 378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 358 EIWILGDVFLRLYFTVYDEGONRIGLAGA 386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    47.58;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A:Cross-references: GB:J05640
C;Superfamily: pepsin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A: Residues: 1-389 <KAG>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Molecule type: mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Accession: A38302
```

qq e g

à à ò ⋩ à à

용

ò

Query Match

```
Avītitie: Molecular cloning of a pair of human pepsinogen A genes which differ by a Gl
A/Reference number: 154252; MUID:88006181; PMID:3115885
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C:Keywords: aspartic proteinase; gastric juice; hydrolase; phosphoprotein; protein di
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Title: A comparative study on the NH2-terminal amino acid sequences and some other
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A:Title: Isolation of human, swine, and rat prepepsinogens and calf preprochymosin, A:Reference number: A22434; MUID:86059312; PMID:2415509
                                                                                                                                                                                                                                                                                                                             Cipacia (Departa) mospida (Departa) 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              57 NLT-IHPLRNINNLVYVGNITIGTPPQEFQVVFDTGSSDLWVPS-FCTMPACSAPVWFRQ 114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 MKWLLLIGLVALSECIMYKVPLIRKKSLRRTLSERGLLKDFLKKHNLNPARKYFPOWEAP 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 MKWIVLGLVAFSECIV-KIPLRQVKTMRKTLSGKNMLKNFLKEH---PYRLSQISFRGS 56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Residues: 1-27,'F',29-73 <RES>
A;Cross-references: GB:M27598; NID:g189834; PIDN:AAA36431.1; PID:g189836
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 1; Length 388;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         F.16-62/Domain: activation poptide #status experimental <APT>
F.60-98/Product: poptan A 3. minor variant Fstatus experimental
F.50-38/Product: popsin A 3 #status experimental <AMT>
F.94.277/Active site: Asp #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  P:130/Binding site: phosphate (Ser) (covalent) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Nap position: 11q13.1-11q13.5
A;Introns: 19/2: 73/3; 113/1; 152/3; 219/2: 258/2; 306/3; 339/3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      67; Mismatches 117; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               F.1-15/Domain: signal sequence #status experimental <SIG>
F.16-388/Product: pepsinogen A 3 *status experimental <ZYM>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A.Cross-references: GB:J00279
R:Athauda. S.B.P.: Tahli, W.; Kageyama, T.; Takahashi, K.
J. Biochem. 106. 920-927, 1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A: Reference number: PX0023; NUID: 90130402; PMID: 2515193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FEBS Lett. 24, 69-72, 1988
A.71Lle. Activation of human pepsinogens.
A.Reference number: 802663; MUID:89065108; PMID:3197840
A.Accession: 802663
                                                                                                                                                                                                                              pepsin A (EC 3.4.23.1) 3 precursor [validated] - human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 923.5; DB 1:
n.od. No. 2.2e-69;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Cross-references: GDB:119482; OMIN:169710
                                                                                                                                                                                                                                                                                   N:Alternate names: pepsinogen A isozyme 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   R;Ichihara, Y.; Sogawa, K.; Takahashi, K.
J. Biochem. 98, 483-492, 1985
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A:Status: translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity 49.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           datches 191, Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Molecule type: protein
A; Residues: 16-100 <ATH>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Molecule type: protein
A; Residues: 16-68 <POL>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Molecule type: DNA
A; Residues: 1-388 <SOG>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                C;Superfamily: pepsin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Molecule type: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A:Accession: PX0023
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A:Accession: F22434
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Accession: IS4252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A, Gene: GDB: PGA3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      R; Foltmann, B.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C:Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Concerveferences InBELIASPAS, MINI-198068, PUNI-CANALAZI, PEDI-981604.

ANACE: part of sequence, including amino ende of peptinogen and activation intermediat formament; It could not be determined if this sequence represents isozyme 2 or 3, which in by 4 months of sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Rikolepowaa, T.; Kandbe, K. 19041. O.
Bur. J. Buchoma. 202, 202-115. 1991
A./TILLe: Devolopowar Capendero expression of incompagns of monkey pepalnogens and struct
A.Reference number: S19881; MOID:920765; PRID:1335777
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Compromer, signating conceinance, pastering predictions and registering protein protein diget 
Fig. 150 means in signal sequence status predicted SIGN 
Fig. 150 means in signal sequence status predicted SIGN 
Fig. 150 means in signal sequence status predicted SIGN 
Fig. 150 means in signal sequence status predicted signal sequence 
Fig. 150 means in signal sequence status predictions and service 
Fig. 150 means in signal sequence 
F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C: Comment: Although two-step activation is observerd, activation is predominantly a one
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NiAternate names: pojesinogen A seczywe 2/3
C.Specias: Maccos insolat (Iopanese amenauch)
C.Dates - Z.-Nov.11991 #sequence_revision 19-oct-1995 #text_change 18-Jun-1999
                                                                                               293 PFDSKHYVSCPATKYLPSITFIINGIKYPNTARAYIPKDSR-GRCYSAFKENTVRTSR-E 350
241 LKWVPLSARNYWQITLDRITWRGVVVGCTRGCQAILDSGSAFILGPSRQISSIQKIIQAR 300
                                                                                                                                                                                                         901 FIENEYQVRCCARTTLADFIFTINNVQYPVPARAYIRKGSTPRRCYSNFSGGTESLGKEE 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TLIDEOPLENYLDMEYFGTIGIGTPAQDFTVIFDTGSSNLAVPSVYCSSLACTHHREFN 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               115 LQSSTFQPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYG--LEGRNYD 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121 QDSSTYQSTSGTVSITYGTGSMTGILGYDTVQVGGISDTNQIFGLSETEPGSFLYYAPPD 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        173 GVLGLNYPNISFSGAIPIFDNLKNQGAISEPVFAFTLSKNKQEGSVVMFGGVDHQYYKGE 232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GILGLAYPSISSSGATPVFDNIWNQGLVSQDLFSVYLSADDQSGSVVIFGGIDSSYYTGS 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 233 LNWIPLIEAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLI-RT 291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241 LWWVPVSVEGYWQISVDSITMNGEAIACAEGCQAIVDTGTSLLTGPTSPIANIQSDIGAS 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           292 RPPDSKHYVSCFATKYLPSITFIINGIKYPWTARAYIPKDSRGRCYSAFKENTVRT-SRE 350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            58 --LIIHPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLWVPS-FCTMPACSAPVWFRQ 114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    101 ENSDGEMVVSCSAISSLPDIVPTINGIQYPVPPSAYILQ-SQGSCISGFQGKDVPTESGE 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 MKWLLLGLVALSECIIHKVPLVRKKSLRRNLSEHGLLKDPLKKHNPASKYFPQAEAP 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 MKWIVLLGLVAPSECIV-KIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISPRGSN-- 57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 1; Length 388;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                F;130/Binding site: phosphate (Ser) (covalent) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      F:94.277/Active site: Asp #status predicted
F:107-112.268-272,311-344/Disulfide bonds: #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                pepsin A (EC 3.4.23.1) 2/3 precursor - Japanese macaque
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   69; Mismatches 117;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               46.0%; Score 924.5; DB 1.
                                                                                                                                                                                                                                                                                                                  351 TWILGDAPLRRYFSVFDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                       TWILGDAFLRRYFSVFDRGNDRIGLA 376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   360 LWILGDVFIROYFTVFDRANNOVGLA 385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Best Local Similarity 49.0°
Matches 189; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              C; Accession: S19684; S16064
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Molecule type: mRNA
A; Residues: 1-388 <KAG>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    C; Superfamily: pepsin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Accession: S19684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S19684
                                                                                               à
                                                                                                                                                                                                         9
                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 õ
```

61 TLVDEQPLENYLDMEYFGTIGIGTPAQDFTVVFDTGSSNLWVPSVYCSSLACTNHNRFNP 120

g ò a à g à g à

```
Cispectes into applicate (min)
Charter Of-Jun-1999 issequence_gresson 20-Aug-1994 items_change 59-Aug-1997
Choreage in AUG1; 2005644; 25234 2007027; pro2002; pro2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A/Residues: 1-77, fF', 29-388 <EVES-
A/Residues: 1-77, fF', 29-388 <EVES-
A/ROTSS-references: GB-MZGOTA
A/ROTE: the authors translated the codon TTC for residue 38 as Leu, GGC for residue 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A/Nothcrife Type; protein
Arbeithous; 15-66 FGDD.
RRBMA, RA. icrisius L.C.; Aders, T.; Monvisson, S.G.M.; Arwert, F.; Pronk, J.C.,
SPES Lett. 238, 105-108, 1998
A.FILLE L.GORTILLELLE OF SERVISSON SERVISSON OF A SUB-
A.FILLE L.GORTILLELLE OF SERVISSON SERVISSON OF The OPERATION segment of huma
A.FILLE L.GORTILLELLE OF SERVISSON SERVISSON SERVISSON SERVISSON OF THE OPERATION SEGMENT OF huma
A.FILLE SERVISSON SERVIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A:Tille: ISOlation of human, swine, and rat propepsinogens and calf preprochymosin, a A:Tille: ISOlation of human, swine, and rat propegsinogens and calf preprochymosin, a A:Accession: A2244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A.Title: A comparative study on the NW2-terminal amino acid sequences and some other A.Title: A comparative study on the NW2-terminal amino acid sequences and some other A.Accession: PX0023; MOID:901304102; PMID:2515193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      C. Moyerota: asparite grotelnase; hydrolase; phosphogrotein; protein digestion 
FP-1570amis: sighal sequence Vastaus experimental KINO 
FP-15780 Product; pepsinoyan A 5 Mastus experimental KINO 
FP-0780 Product; pepsin A 5 Mastus experimental KINO 
FP-0780 Productive A Mastus A Mas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      11; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 MKWIVLLGLVAFSECIV-KIPLRQVKTMRKTLSGKNMLKNFLKEH---PYRLSQISFRGS 56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 45.7%; Score 918.5; DB 2; Length 388;
49.0%; Pred, No. 5.8e-69;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               F;130/Binding site: phosphate (Ser) (covalent) #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A:Map position: 11q13-11q13
A:Introns: 19/1; 73/3; 113/1; 152/3; 219/2; 258/2; 306/3; 339/3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    70; Mismatches 116; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Wolecule type: protein
A;Residues: 1-15, xxxx,19-20, xx,22, xxx,25-26, xx,28 <ICH>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      R.Athauda, S.B.P.; Tanji, M.; Kageyama, T.; Takahashi, K.J. Biochem. 106, 920-927, 1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              R:Poltmann, B.
FEBS Lett. 341, 69-72, 1988
A:Title: Activation of human pepsinogens.
A:Reference number: S02663; WUID:89065108; PMID:3197840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Cross-references: GDB:119484; OMIN;169730
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    F:94.277/Active site: Asp #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               R.Ichihara, Y.; Sogawa, K.; Takahashi, K.
J. Biochem. 98, 483-492, 1985
                                                                                                                                                                                                                                                                                              pepsin A (BC 3,4.23.1) 5 precursor
                                                                                                                                                                                                                                                                                                                                                                      N; Alternate names: pepsinogen 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Local Similarity 49.0%
Matches 189; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Molecule type: protein
A; Residues: 16-58 <BAN>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Molecule type: protein
A; Residues: 16-100 <ATH>
A; Accession: PX0025
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Molecule type: protein
A; Residues: 16-60 <AT2>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Molecule type: protein
A; Residues: 16-100 <AT3>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A;Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              C; Superfamily: pepsin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Molecule type: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Accession: A30142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A;Accession: S02664
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A:Accession: S02542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A:Accession: PX0026
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A:Gene: GDB:PGA5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ouery Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A NITEC He would admine peptinogene A and C. and prochymosine. Partitioation, characted A Mostereneon underly compared to the American Compared to the American University of the American Compared to the American Compared 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  pupisingone A, comon marcoses, comon marcoses).
CSPECEGAS: CALILHERIX SI acchina (comen marcoses).
CSPECEGA-2000 Hedurance_revision 09-Jun-2000 flext_change 21.3ul-2000
CARCOSESSON: 457248 FASTON 2000
TSRANGHORA. 137, 761.770, 2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181 ILGLAYPSISSSGATPVFDNIWNQDLVSQDLFSVYLSSNDQSGSVVMFGGIDSSYYTGSL 240
115 LQSSTFQPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYG--LEGRNYD 172
                                                                                                           121 EDSSTXQSTSETVSITYGTGSWIGILGYDTVQVGGISDTWQIFGLSETEPGSFLXYAPFD 180
                                                                                                                                                                                                                                                                                                                                                    173 GVLGLNYPNISFSGAIPIPDNLKNQGAISEPVFAFYLSKNKQEGSVVMFGGVDHQYYKGE 232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181 GILGLAYPSISSSGATPVFDNIWNQGLVSQDLFSVYLSADDQSGSVVIFGGIDSSYYTGS 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          233 LNWIPLIEAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLI-RT 291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241 LAWVPVTVEGYWQITVDSITMNGBAIACAEGCQAIVDTGTSLLTGPTSPIANIQSDIGAS 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               292 RPFDSKHYVSCFATKYLPSITFIINGIKYPMTARAYIPKDSRGRCYSAFKENTVRT-SRE 350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  301 ENSDGDMVVSCSAISSLPDIVFTINGVQYPVPPSAYILQ-SEGSCISGFQGMNLPTESGE 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  60 I---HPLRNIMMLVYVGNITIGTPPQEPQVVPDTGSSDLAVPS-FCTMPACSAPVWFRQL 115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61 MIANOPLVWYIDMEYFGTIGIGTPAOEFTVIFDTGSSNLWVPSIYGSSPACTNHNRPNPO 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        116 OSSTEQPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDOPFGLSVVEYG--LEGRNYDG 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121 BSSTYQATSQTLSIAYGTGSMTGILGYDTVQVGGIADTNQIFGLSETEPGSFLYYSPPDG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            174 VLGLNYPNISPSGAIPIFDNLKNOGAISEPVFAPYLSKNKOBGSVVMFGGVDHOYYKGEL 233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NWIPLIEAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLI-RTR 292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241 NWVPVSABGYWOITVDSITMNGEAIACAEGCOAIVDIGISLISGPISPIANIOSYIGASE 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       293 PPDSKHYVSCFATKYLPSITFIINGIKYPMTARAYIFKDSRGRCYSAFKENTVRIS-RET 351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 MKWIVLLGLVAPSECIVKIPLRQVKTWRKTLSGKNMLKNFLKEHPYRLSQISF-RGSNLT 59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 MKWLLLLSLVALSECLYKVSLIKKKSLRKNLIEHGLLKDFLKNNTLDPASKYFPQGEAAT 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 387;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          68; Mismatches 120; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 920; DB 2;
Pred. No. 4.3e-69;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    volution of mammalian orders and families.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TWILGDAFLRRYFSVFDRGNDRIGLA 376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      360 LWILGDVPIRQYPTVPDRANNQVGLA 385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             352 WILGDAFLRRYFSVFDRGNDRIGLA 376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               360 WILGDVFIRGYFAVFDRANNQVGLA 384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          C;Superfamily: pepsin
C;Keywords: gastric juice; zymogen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         45.88;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches 187; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 10
```

qq à a e à g à a à 6

ò

à

Q

ò ô g à 9 á a g à g

9 Page

```
A Mossiones 1.579 '797-793-388 cerbs control for residue 28 as Leu, ODC for residue 3 
Ansatzes 1.579 '797-793-798 cerbs control for the contr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C:Keywords: aspartic proteinase; hydrolase; phosphoprotein; protein digestion; zymoge, E:15fomedin: signal sequence feature seperimental 45162. F:16-59/Domain; atpratiantal 45102. F:16-59/Domain; atpratiantal 45102.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               specia (N. C. 3.4.2.1), precursor · human
Cipher (N. C. 3.4.2.1), precursor · human
Cipher (N. C. 3.2.1), precursor · S. 2.4.2.1997
(Cheese (N. C. 3.2.1.2.2.19) (S. 2.4.2.1), precursor · S. 2.4.2.1997
(Cheese (N. 2.2.2.2.2.1987) (S. 2.4.2.1997) (S. 2.4.2.1997) (S. 2.4.2.1997)
(Cheese (N. 2.2.2.2.2.1987) (S. 2.4.2.1987) (S. 2.4.2.198
                                                                                                                                                                                                                          --LTIHPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLAVPS-FCTMPACSAPVWFRQ 114
                                                                                                                                                                                                                                                                                                                                                             51 TLIDEOPLENYLDVEYFGTIGIGTPAODFTVIFDTGSSNLAVPSVYCSSLACTNHNLFNP 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              115 LOSSTFQPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYG--LEGRNYD 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121 QDSSTYQSTSGTLSITYGTGSMTGILGYDTVQVGGISDTNQIFGLSETEPGSFLYYAPFD 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  173 GVLGLNYPNISFSGAIPIFDNLKNQGAISEPVFAFYLSKNKQEGSVVMFGGVDHQYYKGE 232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181 GILGLAYPSISSSGATPVFDNIWDOGLVSODLFSVYLSADDOSGSVVIFGGIDSSYYTGS 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       233 LNWIPLIEAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGFGRLVNNIHRLI-RT 291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241 LNWVPVSVEGYWOISVDSITHNGEAIACABGCOAIVDTGTSLLTGPTSPIANIOSDIGAS 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           292 RPFDSKHYVSCFATKYLPSITFIINGIKYPMTARAYIFKDSRGRCYSAFKENTVRT-SRE 350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301 BNSDGEMVVSCSAISSLPDIVFTINGIQYPVPPSAYILQ-SQGSCTSGFQGMDVPTESGE 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 MKWILLIGIVALSECIMYKVPIIRKKSIRRTLSERGLIKDFLKKHNINPARKYFPQMEAP 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 MKWIVLLGLVAFSECIV-KIPLRQVKTMRKTLSGKNMLKNFLKEH---PYRLSQISFRGS 56
                                                                        MKWLLLIGLVALSECIIYKVPLVRKKSLRRNLSEHGLLKDFLKKHNLNPASKYFPQAEAP 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 388;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            P:63-388/Product: pepsin A 4 *status predicted <AMT>
FS94.77Active site: Asp *status predicted
*$107-112.26-272,311-344/Disulfide bonds: status predicted
F:130/Binding site: phosphate (Ser) (covalent) *status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A:Map position: 11q13-11q13
A:Introns: 19/1: 73/3; 113/1; 152/3; 219/2; 258/2; 306/3; 339/3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Molecule type: protein
A; Residues: 1-15, 'XXX', 19-20, 'X', 22, 'XX', 25-26, 'X', 28 <ICH>
              =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           69; Mismatches 117;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           45.6%; Score 915.5; DB
49.0%; Pred. No. 1e-68;
              A;Cross-references: GDB:119483; OMIM:169720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               351 TWILGDAFLRRYFSVFDRGNDRIGLA 376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 360 LWILGDVPIROYFTVPDRANNOVGLA 385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      C; Superfamily: pepsin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Gene: GDB: PGA4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         189;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               qq
                                                                                                                                                                                                                                                                                                                                                             G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Williams Asserting the Asserting Companies according to the Companies of t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181 GILGLAYPSISSSGATPVFDNIWNOGLVSODLFSVYLSADDOSGSVVIFGGIDSSYYTGS 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  292 RPFDSKHYVSCFATKYLPSITFIINGIKYPMTARAYIFKDSRGRCYSAFKENTVRT-SRE 350
                                                                                                                                                 NLT-IHPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLWVPS-FCTMPACSAPVWFRQ 114
                                                                                                                                                                                                                                                                                    61 TLVDBQPLENYLDMEYFGTIGIGTPAQDFTVLFDTGSSNLWVPSVYCSSLACTNHNRFNP 120
                                                                                                                                                                                                                                                                                                                                                                                                                                     115 LQSSTFQPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYG--LEGRNYD 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GVLGLNYPNISFSGAIPIFDNLKNGGAISEPVFAFYLSKNKQEGSVVWFGGVDHQYYKGE 232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              233 LAWIPLIEAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLI-RT 291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241 LAWVPVTVESYWOITVDSITHNGEALACAEGCOALVDTGTSLLTGPTSPIANIOSDIGAS 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301 ENSDGDMVVSCSAISSLPDIVFTINGVOYPVPPSAYILO-SEGSCISGFOGMNLPTESGE 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
1 MKWILLIGLVALSECIMYKVPLIRKKSIRRTLSERGLLKDFLKKHNLNPARKYFPQWKAP 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121 EDSSTYQSTSETVSITYGTGSMTGILGYDTVQVGGISDTNQIPGLSETEPGSFLYYAPPD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FF.65-188Fyctuler; pepein A 1 status experimental CENZ>
FF.67-188Fyctuler; pepein A 1 status experimental CENZ>
FF.07-122.CS6-272, 311-344/Pisulidide bonds: status experimental FF.07-122.CS6-272, 311-344/Pisulidide bonds: status experimental FF.07-102.VSRAINING site: phosphate (Ser) (covalent) status experimental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels 11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 388;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               F;16-62/Domain: activation peptide #status experimental <APT>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match 45.6%; Score 915.5; DB 1;
Best Local Similarity 48.7%; Pred. No. 1e-68;
Matches 188; Conservative 69; Mismatches 118;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       351 TWILGDAFLRRYFSVFDRGNDRIGLA 376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         360 LWILGDVFIRQYFTVFERANNQVGLA 385
```

57 NLT-IHPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLAVPS-FCTMPACSAPVWFRQ 114

à

1 MKWIVLLGLVAFSECIV-KIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGSN-- 57

ô

Page

```
T. Nicaleyema. 7: Tanaba K. Routesi. O.
T. Nical. Chem. 364, 17031-17038 | 1990 sablt pensionen. Stage-specific symogens, nu
Anderescen annings and software (1990 sablt pensionen. Stage-specific symogens, nu
Anderescen series (1993) | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 | 1883 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A.Cross-references: GB.M59235; GB.305638
C.Superfessa strates and the content of 
                                                                                                                                                                                                                                                                                                                                                                                                                            poppein (RC 34.3.). 17-1.7 procensor - rabbit
C.Species: Orycologus cuniculus (domestic rabbit)
C.Species: L4-Uni991 %sequence_revision 20-Sep-1991 #text_change 23-Feb-1997
C.Accessin: 838302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             57 NLTHPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLWVPS-FCTMPACSAPVWFRQL 115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61 SVSTESLENYLDARRYGATISICTPPQEETVIFDTGSSNLWVPSTYCSSLACFLHRRFNPD 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 116 QSSTFQPTNKTPT1TYGSGSMKGPLAYDIVRIGDLVSTDQPFGLSVVEYGLE--GRNYDG 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   174 VLGLNYPNISFSGAIPIFDNLKNOGAISEPVFAFYLSKNKQEGSVVMFGGVDHQYYKGEL 233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NWIPLIEAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLI-RTR 292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           293 PPDSKHYVSCFATKYLPSITFIINGIKYPMTARAYIFKDSRGRCYSAFKENTVRTS-RET 351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301 NLLGENIISCSAIDSLPDIVFTINNVOYPLPASAYILKED-DDCLSGFDGMNLDTSYGEL 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 MKWLLLIGLLALSECIVHKVPLVRKKSLRKNLIEKGLLQDYLKTHTPNLATKYFPKETFA 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 MKWIVLLGLVAFSECIV-KIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISF---RGS 56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 387;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     74; Mismatches 119; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 914; DB 2;
Pred. No. 1.4e-68;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Search completed: April 2, 2003, 17:45:06
Job time : 23 secs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           352 WILGDAFLRRYFSVFDRGNDRIGLARA 378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               360 WILGDVFIRQYFTVFDRANNQVGLAAA 386
                                            376
                                                                                                               360 EWILGDVFIRQYFTVFDRANNQVGLA 385
                                                       351 TWILGDAFLRRYFSVFDRGNDRIGLA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      45.58;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches 184; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A: Residues: 1-387 <KAG>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A, Status: preliminary
A, Molecule type: mRNA
                                                                                                                                                                                                                                                                                                                                   RESULT 15
                                                                                                                                     a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  pupelio A. Criz 3.4.2.3.1 percenton - thesas macaque

All Licrade masses: pepilopen A.

Crispolera Nocian malital friessa managera (1999) start_change 18-Jun-1599

Crispolera (20-Jun 1897) steppinsch_crispolera (20-Jun-1599) start_change 18-Jun-1599)

Riposes AP 2.1. follor B.; Bebelman J. P.; Pronk, J. C.; Maque, W.B.; Planta, R.J.; ETB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             C: Keywords: asparite proteinase; gastric juice; hydrolase; phosphoprotein; protein diges P:1-15/Domain: signal sequence #status predicted <SIG>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            292 RPFDSKHYVSCFATKYLPSITFIINGIKYPMTARAXIFKDSRGRCYSAFKENTVRT-SRE 350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  101 ENSDGDWYVSCSAISSLPDIVFTINGVOYPVPPSAYILG-SEGSCISGFOGMNVPTESGE 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          --LTHPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLAVPS-FCTMPACSAPVWFRQ 114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61 TLIDBOPLENYLDVEYFGTIGIGTPAODFTVIFDTGSSNLAVPSVYGSSLACTNHNLFNP 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              115 LQSSTFQPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYG--LEGRNYD 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121 QDSSTYQSTSGTLSITYGTGSMTGILGYDTVQVGGISDTNQIFGLSETEPGSFLYYAPFD 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GVLGLNYPNISFSGAIPIFDNLKNOGAISEPVFAFYLSKNKOEGSVVMFGGVDHQYYKGE 232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181 GILGLAYPSISSSGATPVFDNIWDQGLVSQDLFSVYLSADDQSGSVVIFGGIDSSYYTGS 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                233 LNWIPLIEAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLI-RT 291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241 LNWVPVSVEGYWQISVDSITMNGEAIACAEGCQAIVDTGTSLLTGPTSPIANIQSDIGAS 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    292 RPFDSKHYVSCFATKYLPSITFIINGIKYPMTARAYIFKDSRGRCYSAFKENTVRT-SRE 350
61 TLVDEQPLENYLDMEYFGTIGIGTPAQDFTVLFDTGSSNLWVPSVYCSSLACTNHNRFNP 120
                                                                                                               115 LQSSTFQPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYG--LEGRNYD 172
                                                                                                                                                                                                                                                                                                                                   173 GVLGLNYPNISFSGAIPIFDNLKNQGAISEPVFAFYLSKNKQEGSVVMFGGVDHQYYKGE 232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      233 LNWIPLIEAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLI-RT 291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 MKWIVLLGLVAFSECIV-KIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGSN-- 57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 MKWLLIGGVALSECIIYKVPLVRKKSLRRNLSEHGLLKDFLKKHNRNPASKYFPOTEAP 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Cross-references: GB: M20788; NID: 9342274; PIDN: AAA36902.1; PID: 9342275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   45.5%: Score 914.5; DB 1; Length 388;
48.4%; Pred. No. 1.2e-68;
Live 70; Mismatches 118; Indels 11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Title: Cloning and sequencing of rhesus monkey pepsinogen A cDNA. A; Reference number: JT0309; MUID:883133666; PMID:2900796
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            F.16-388/Product: pepsinogen *status predicted <MAT>
F.16-52/Domain: ectivation peptide *status predicted <APT>
F.65-388/Product: pepsin *status predicted <ARZ>
F.94.277/Active site: Asp *status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              351 TWILGDAFLRRYFSVFDRGNDRIGLA 376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LWILGDVFIRQYFTVFERANNQVGLA 385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       187; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Molecule type: mRNA
A; Residues: 1-388 <EVE>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           C; Superfamily: pepsin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A:Accession: JT0309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a
                                                                                                               ò
                                                                                                                                                                                                                   윱
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  용
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
```

```
GenCore version 5.1.4_p5_4578
Copyright (c) 1993 - 2003 Compugen Ltd.
```

April 2, 2003, 17:38:07 ; Search time 25 Seconds OM protein - protein search, using sw model Run on:

(without alignments) 628.781 Million cell updates/sec 1 MKWIVLLGLVAPSECIVKIP......RRYPSVPDRGNDRIGLARAV 379 US-09-273-164-32 Title: Perfect score: sedneuce:

BLOSUM62 Gapop 10.0 , Gapext 0.5 scoring table:

Total number of hits satisfying chosen parameters: 112892 seqs, 41476328 residues searched:

Minimum DB seq length: 0 Maximum DB seq length: 2000000000

Post-processing: Minimum Match 10% Maximum Match 100% Listing first 45 summaries

SwissProt_40:* Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

	Description	bos tauru	028755 ovis aries	pos	Q29079 sus scrofa				P27677 macaca fusc		callith	macaca	тасаса		P27822 oryctolagus	oryctol		P27821 oryctolagus					. 09n2d2 callithrix		P43159 oryctolagus		-	P18276 ovis aries		O9n2d3 callithrix	P20142 homo sapien	_	il cavia p	P03955 macaca fusc
SUMMARIES	Ω	PAG1_BOVIN	PAG1_SHEEP	PAG2_BOVIN .	PAG2_PIG	PAG_HORSE	PEPF_RABIT	PAG1_PIG	PEP2_MACFU	PEPA_HUMAN	PEPA_CALJA	PEP1_MACFU	PEPA_MACMU	PEP1_RABIT	PEP3_RABIT	PEP4_RABIT	PEP4_MACFU	PEP2_RABIT	PEPA_PIG	PEPE_CHICK	CATE_HUMAN	CATE_RAT	CHYM_CALJA	CATE_MOUSE	CATE_RABIT	CHYM_BOVIN	PEPA_CHICK	CHYM_SHEEP	CATE_CAVPO	PEPC_CALJA	PEPC_HUMAN	PEPC_RAT	PEPC_CAVPO	PEPC_MACPU
	th DB								8							7											7			8	8	2	7	7
	Leng	. 60	38	37	42	38	38	38	38	38	38	38	38	38	38	88	38	38	38	38	39	39	38	39	33	38	36	38	39	38	38	39	39	37
	Query		69.1	ς.		49.7		46.7	46.0					45.5		5	5	7	#										34.9				33.3	33.2
	Score	1559.5	1387.5	1148.5	1035.5	997.5	963.5	938	924.5	923.5	920	915.5	914.5	914	914	606	906.5	901	886.5	806.5	772.5	767.5	762.5	741.5	738.5	737.5	-	713.5		696.5		91.	668.5	667.5
	Result No.	п	N	e	4	'n	9	7	00	6	10	11	12	13	14	15	16	17	18	19	50	21	22	23	55	25	56	27	28	58	30	31	32	33

005744 dallus dall	P56272 gadus morhu	P18242 mus musculu	P24268 rattus norv	P07339 homo sapien	Q03168 aedes aeqyp	P80209 bos taurus	009043 mus musculu	P00795 sus scrofa	O96009 homo sapien	. 042456 oryza sativ	P52115 ovis aries	
CATD_CHICK	PEP1_GADMO	CATD_MOUSE	CATD_RAT	CATD_HUMAN	ASPP_AEDAE	CATD_BOVIN	KDAP_MOUSE	CATD_PIG	NAP1_HUMAN	APR1_ORYSA	RENI_SHEEP	
н	н	н	н	-	н	н	н	н	н	m	н	
398	324	410	407	412	387	390	419	345	420	209	400	
<u>.</u>	Ξ	٤:	5	2	2	9.	9.	28.7	9:	:	٩.	
3	35	33	36	ĕ	ĕ	52	52	28	28	27	27	
648	645	632.5	621	617	607.5	595	594	577	574.5	555.5	554	
34	32	36	37	38	39	\$	Ţ	42	43	44	45	

ALIGNMENTS

RESULT 1

	104564.19091M STANBARD). PRT; 380 AA. C035332. D1 0070-1997 (Red. 15, Leat Sequence update). D1 0070-1997 (Red. 15, Leat Sequence update). D2 1070-1002 (Red. 14, Leat Sequence update). D3 1070-1002 (Red. 14, Leat Sequence update).	1804. Significant STANDARD; PRT; 380 AA. C03432. The Control of Co	PAL_SOUTH STANDARD: PRT; 380 AA. TO 034510718 TO 034071997 (Rel. 35, Centello and Control and Contro
	10m. 26d. 1907H STANDARD; PRT; 180 AA. C 03933; DV 0200. 155, Corela or C 03933; DV 0300. 155, Corela or C 03900. 155, Corela	10A. 2013. 20. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0	PAL_SOURCE STANDARD: PRT; 380 AA. M. O34315. DT 01-007-1997 (Rel. 135, Cereals) DT 01-007-1997 (Rel. 135, Cereals) DT 01-007-1997 (Rel. 135, Leat Sequence update) DT 135, Leat Sequence update) DT 135, Leat Sequence update DT 135, Cereals (Leat Sequence update) DT 135, Leat Sequence update DT 135, Leat Se
0.000 0	10m. 26d. 1997H STANDARD; PRT; 180 AA. C 03431; Prt 1. 35, Create Prt; 180 AA. TO 10.7007-1937 (Red. 135, Leaf sequence update) EN 01.7007-1937	10A. 2013; Orall STANDARD; PRT; 180 AA. C 03532; Orall 15, Cecelar 15, Cecelar 160 Orall 160 Ora	PAL 2007-1997 (18-15) CARNEARD) PRT; 310 AA. D1 07-07-1997 (18-15) CARLEAGUE Update) D1 07-07-1997 (18-15) CARLEAGUE
	10m. 26d. 199718 STANDARD; PRT; 180 AA. C 034312; Prt. 13. Careta Prt.; 180 AA. TO 10.7007-1937 (Red. 13. Last sequence update) EN TO 10.7007-1937 (Red. 13. Last sequence	10A. 2013; Oracle STANDARD; PRT; 180 AA. C 03431; Oracle STANDARD; PRT; 180 AA. C 03432; Oracle STANDARD; C 03432; Oracle STANDARD; Oracle STA	PAL STATEMENT STANDARD: PRT; 180 AA. C 034312. D1 01-000-1907 (set 1.35, Centello update) D1 01-000-1907 (set 1.35, Centello update) D1 01-000-1907 (set 1.35, Leat Sequence
	10m. 26d. 1997H STANDARD; PRT; 180 AA. C 03431; Prt 1. 35, Create Prt; 180 AA. TO 10.7007-1937 (Red. 135, Leaf sequence update) EN 01.7007-1937	10A. 2013; Orall STANDARD; PRT; 180 AA. C 03532; Orall 15, Cecelar 15, Cecelar 160 Orall 160 Ora	PAL 2007-1997 (18-15) CARNEARD) PRT; 310 AA. D1 07-07-1997 (18-15) CARLEAGUE Update) D1 07-07-1997 (18-15) CARLEAGUE
	10m. 26d. 1997H STANDARD; PRT; 180 AA. C 03431; Prt 1. 35, Create Prt; 180 AA. TO 10.7007-1937 (Red. 135, Leaf sequence update) EN 01.7007-1937	10A. 2013; Orall STANDARD; PRT; 180 AA. C 03532; Orall 15, Cecelar 15, Cecelar 160 Orall 160 Ora	PAL 2007-1997 (18-15) CARNEARD) PRT; 310 AA. D1 07-07-1997 (18-15) CARLEAGUE Update) D1 07-07-1997 (18-15) CARLEAGUE
	10m. 10d. 10d. 10d. 10d. 10d. 10d. 10d. 10d	10A. 2013; 10 A. C.	PAL STATEMENT STANDARD: PRT; 380 AA. DE 034325. DE 03402-1997 (Rel. 135, Cented). DE 10407-1997 (Rel. 14, Lest sequence update). DE 10407-1997 (Rel. 15, Lest sequence update). DE 10407-1997 (Rel. 15, Lest sequence update). DE 10407-1997 (Rel. 15, Lest sequence update). DE 10407-1997 (Rel. 14, Lest sequence
	10m. 10d. 10d. 10d. 10d. 10d. 10d. 10d. 10d	10A. 2013; 10 A. C.	PAL STATEMENT STANDARD: PRT; 380 AA. DE 034325. DE 03402-1997 (Rel. 135, Cented). DE 10407-1997 (Rel. 14, Lest sequence update). DE 10407-1997 (Rel. 15, Lest sequence update). DE 10407-1997 (Rel. 15, Lest sequence update). DE 10407-1997 (Rel. 15, Lest sequence update). DE 10407-1997 (Rel. 14, Lest sequence
	10m. 26d. 1997H STANDARD; PRT; 180 AA. C 03933; DV0-1997 (FG. 135, Ceetel) 155, Ceetel C. 10m. 10m. 10m. 10m. 10m. 10m. 10m. 10m	10A. 2013. CA 03532. D1 070-1997 (Rel. 13, Least sequence update) D1 070-1997 (Rel. 14, Least sequence update) D1 070-1997 (Rel. 14, Least sequence update) D2 070-1997 (Rel. 14, Least sequence update) D2 070-1997 (Rel. 14, Least sequence update) D3 070-1997 (Rel. 14, Least sequence update) D4 070-1997 (Rel. 14, Least sequence update) D5 070-1997 (Rel. 14, Least sequence update) D5 070-1997 (Rel. 14, Least sequence update) D6 070-1997 (Rel. 14, Least sequence update) D7 070-1997 (Rel. 14, Least sequence update)	PAL STATE STANDARD: PRT; 350 AA. M. 034325. DY 03-05-1997 (Rel. 135, Cereals update) DY 03-05-1997 (Rel. 135, Cereals update) DY 03-05-1997 (Rel. 141, Last sequence update) DY 03-05-1997 (Rel. 141, Last semication update) DY 03-05-1997 (Rel. 141, Last semication update) DY 03-05-1997 (Rel. 141, Last semication update) DY 03-05-1997 (Rel. 150, Last Standard Update) DY 03-05-1997 (Rel. 150, Last Standard Update) DY 04-05-1997 (Rel. 150, Last Sta
	10m. 26d. 1997H STANDARD; PRT; 180 AA. C 03933; DV0-1997 (FG. 135, Ceetel) 155, Ceetel C. 10m. 10m. 10m. 10m. 10m. 10m. 10m. 10m	10A. 2013. CA 03532. D1 070-1997 (Rel. 13, Least sequence update) D1 070-1997 (Rel. 14, Least sequence update) D1 070-1997 (Rel. 14, Least sequence update) D2 070-1997 (Rel. 14, Least sequence update) D2 070-1997 (Rel. 14, Least sequence update) D3 070-1997 (Rel. 14, Least sequence update) D4 070-1997 (Rel. 14, Least sequence update) D5 070-1997 (Rel. 14, Least sequence update) D5 070-1997 (Rel. 14, Least sequence update) D6 070-1997 (Rel. 14, Least sequence update) D7 070-1997 (Rel. 14, Least sequence update)	PAL STATE STANDARD: PRT; 350 AA. M. 034325. DY 03-05-1997 (Rel. 135, Cereals update) DY 03-05-1997 (Rel. 135, Cereals update) DY 03-05-1997 (Rel. 141, Last sequence update) DY 03-05-1997 (Rel. 141, Last semication update) DY 03-05-1997 (Rel. 141, Last semication update) DY 03-05-1997 (Rel. 141, Last semication update) DY 03-05-1997 (Rel. 150, Last Standard Update) DY 03-05-1997 (Rel. 150, Last Standard Update) DY 04-05-1997 (Rel. 150, Last Sta
	10m. 26d. 1907H STANDARD; PRT; 180 AA. C 03933; DV 0200. 155, Corela or C 03933; DV 0300. 155, Corela or C 03900. 155, Corela	10A. 2013. 20. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0. 0	PAL_SOURCE STANDARD: PRT; 380 AA. M. O34315. DT 01-007-1997 (Rel. 135, Cereals) DT 01-007-1997 (Rel. 135, Cereals) DT 01-007-1997 (Rel. 135, Leat Sequence update) DT 135, Leat Sequence update) DT 135, Leat Sequence update DT 135, Cereals (Leat Sequence update) DT 135, Leat Sequence update DT 135, Leat Se
	104564.19091N STANDARD; PRT; 380 AA. C 03533; D 0300.1939; (Red. 135, Centello 135, Centello 135, Centello 135, Centello 101.000.1939; (Red. 135, Leat Sequence update) D 1.000.1939; (Red. 135, Leat Sequence update) D 1.000.1939; (Red. 141, Leat sequence update) D 1.0000.1939; (Red. 141, Leat sequence update) D 1.0000.1939; (Red. 141, Leat sequence update)	10A. 2013. 20. 2013. 20. 2013. 20. 2015. 20. 2015.	PAL SPORTER STANDARD: PRT; 380 AA. M. O3431501 DE 01-007-1997 (Rel. 135, Cereals update) DE 10-007-1997 (Rel. 135, Leat sequence update) DE 10-007-1997 (Rel. 14, Leat sequence update) DE 10-007-1997 (Rel. 14, Leat sequence update) DE 10-007-1997 (Rel. 14, Leat sequence update) DE 10-007-1997 (Rel. 15, Leat sequence update) DE 10-007-1997 (Rel. 15, Leat sequence update) DE 10-007-1997 (Rel. 15, Leat sequence update) DE 10-007-1997 (Rel. 14, Leat sequence update) DE 10-007-1997 (Rel. 15, Leat seq
	104564.19091M STANBARD). PRT; 380 AA. C035332. D1 0070-1997 (Red. 15, Leat Sequence update). D1 0070-1997 (Red. 15, Leat Sequence update). D2 1070-1002 (Red. 14, Leat Sequence update). D3 1070-1002 (Red. 14, Leat Sequence update).	1804. Significant STANDARD; PRT; 380 AA. C03432. The Control of Co	PAL_SOUTH STANDARD: PRT; 380 AA. TO 034510718 TO 034071997 (Rel. 35, Centello and Control and Contro
	100564.10071N STANDARD; PRT; 380 AA. C 034312.00 C	PAL. 2007.1907.11 STANDARD; PRT; 380 AA. D. 034312.71 S. CREELS. CREELS. D. 0.1007.1907 (Red. 13, Least sequence update) DT 0.1007.1907 (Red. 14, Least sequence update) DT 10.1007.1907 (Red. 14, Least sequence update) DT 10.1007.1907 (Red. 14, Least sequence update) DT 10.1007.1907 (Red. 15, Least sequence update) DT 10.1007.1907 (Red. 14, Least sequence update) DT 10.1007.1907 (Red. 1	PAL_SOUTH STANDARD, PRT, 380 AA. TO ONG-1997 [Rel. 13, Least sequence update) TO 0-1007-1997 [Rel. 13, Least sequence update) TO 1-007-1997 [Rel. 14, Least semination update) TO 1-007-1997 [Rel. 14, Least semination update) TO 1-007-1997 [Rel. 14, Least semination update) TO 1-007-1997 [Rel. 15, Least semination update) TO 1-007-1997 [Rel. 15, Least semination update) TO 1-007-1997 [Rel. 13, Least semination update) TO 1-007-1997 [Rel. 14, Least semination update) TO 1-007-1997 [Rel. 13, Least semination update) TO 1-007-1997 [Rel. 13, Least semination update) TO 1-007-1997 [Rel. 13, Least semination update) CO 1-007-1997 [Rel. 13, Least semination update)
	100 and 100 straight of the control of the co	PALL 2007-1971 STANDARD: PRT; 380 AA. A. 0343.50 Th. D. 03-05-1957 (Rel. 135, Least sequence update) DT 01-007-1957 (Rel. 135, Least sequence update) DT 01-007-1957 (Rel. 14, Least sequence update) DT 01-007-1957 (Rel. 14, Least sequence update) DT 01-007-1957 (Rel. 15, Least	PAL_SOUTH STANDARD, PRT, 380 AA. TO ONG-1907 HE A. 35, CREEDED ON TO ONE OF THE ACCOUNT OF THE
	100	DML Additionary STROMARD; PRT; 180 AA.	PAGL_2007131 TO ONG_12007131 TO ONG_12007131 TO ONG_12007131 TO ONG_12007131 TO ONG_120071307 TO ONG_120071307 TO ONG_120071307 TO ONG_120071307 TO ONG_12007 TO
	100 Additionary Sanabab; PRT; 180 AA.	Dec. Additional STANDARD; PRT; 180 AA.	DAL SOUTH OF STANDARD; DET; 100 AA.
	100 Additionary Sanabab; PRT; 180 AA.	Dec. Additional STANDARD; PRT; 180 AA.	DAL SOUTH OF STANDARD; DET; 100 AA.
	1000-1664 190118 STANDARD) PRT; 180 AA.	Dec. Additional Company Dec.	PAA. 2013 PARANDARD PRT; 100 AA.
	100 60.44.	Dec. Additionary STANDARD; Dec. De	PAA_ 2004 STANDARD; PRT; 100 AA.
	100 66.1.1.00118 STANDARD) PRT; 180 AA.	DAL ADMINISTRY	PAA_BONNON STANDARD; PRT; 180 AA.
	100 60 100	DAL ADMINISTRY STANDARD PRT; 100 AA.	PAA_BONNON STANDARD; PRT; 310 AA.
	100 60.04.1. 100.04.1. 100.04. 100	DAL ADMINISTRY STANDARD; DRT; 180 AA.	PAA_STATION STANDARD; PRT; 180 AA. AC 03933; Day 0.5933; D
	100 60.04.1. 100 60.04. 100 60.04. 100 60.04. 100 60.04. 100 60.04. 100 60	DAL ADMINISTRY STANDARD; PRT; 180 AA.	PAA_STATION STANDARD; PRT; 180 AA.
	1000-1001 1000	DAL AND	PAL 2007-1307 STANDARD; PRT; 180 AA.
	1000 1000	DAL ADMINISTRUMENT STANDARD; PRT; 180 AA.	PAL_STATE STANDARD; PRT; 180 AA.
	Dec.	DAL ADMINISTRUCTION STANDARD; PRT; 180 AA.	MAL
	Dec.	DAL ADMINISTRUCTION STANDARD; PRT; 180 AA. DE 01-007-1997 (FOR 1.5), CROLEGO DE 01-007-1997 (FOR 1.5), CROLEGO DE 10-007-1997 (FOR 1.5), Leaf Sequence update; DE 10-007-1997 (FOR 1.5	MAL
	Dec.	10A. 2007-1997 (1970-1970) 10 (2) (2) (2) (2) (2) (2) (2) (2) (2) (2)	MAL
	DAL ALCOHOLD STANDARD; PRT; 180 AA. DE 01-000-1997 (Rel. 15, Centel DE 01-000-1997 (Rel. 15, Centel DE 01-000-1997 (Rel. 15, Leat Sequence update) DE 01-000-1997 (Rel. 15, Leat Sequence update) DE 01-000-1997 (Rel. 14, Leat Sequence update) DE 01-000-1997 (Rel. 15, Leat Sequence update) DE 01-000-1997 (Rel	10A. 2013.0018 STANDARD: PRT; 380 AA. C03432.001.001.35, Corector 15, Corector 100.001.001.001.001.001.001.001.001.001	MAL_MONTH
	DAL ALCOHOL STANDARD PRT 180 AA. DE 01-000-1997 (Rel. 15, Centel DE 01-000-1997 (Rel. 15, Centel DE 01-000-1997 (Rel. 15, Late Sequence update) DE 10-000-1997 (Rel. 15, Late Sequence update) DE 01-000-1997 (Rel. 14, Late Sequence update) DE 01-000-1997 (Rel. 15, Late Sequence update) DE 01-0000-1997 (Rel. 15, Late Sequence update) DE 01-000-1997 (Rel.	PAL_STATEMENT STANDARD; PRT; 380 AA. DE 01-207-1997 (Rel. 15, Cerela C. 15, Cerela C. 10, Cerela	PAL_SOUTH STANDARD; PRT; 180 AA.
	DAL AGAINGTON STANDARD; PRT; 380 AA. DE 01-2007-1997 (Rel. 135, Cerelle STANDARD; PRT; 380 AA. DE 01-2007-1997 (Rel. 135, Least Sequence update) DE 15-2007-2007 (Rel. 141, Least Sequence update) DE 17-2007-2007 (Rel. 141, Least Sequence update) DE 17-2007-2007 (Rel. 141, Least Sequence update) DE 17-2007-2007 (Rel. 141, Least Sequence update) DE 17-2007-2007-2007-2007-2007-2007-2007-20	PAL_SONOTH STANDARD; PRT; 380 AA. DT 01-200-1997 (Red. 135, Least sequence update) DT 01-200-1997 (Red. 14, Least sequence update) DT 19-200-2007 (Red. 14, Least sequence update) DT 19-200-200 (Red. 14, Least sequence update)	PAL_200718 STANDARD; PRT; 180 AA.
	DAL ADMINISTRY STANDARD; PRT; 380 AA. DE 0.1007-1997 (Rel. 35, Cerela, 100 or 0.1007-1997 (Rel. 15, Least Sequence update) DE 10.1007-1997 (Rel. 14, Least sequence update) DE 10.1007-1997 (Rel. 14, Least sequence update) DE 10.1007-1997 (Rel. 14), Least sequence update) DE 10.1007-1997 (Rel. 15)	PAL_SON. STANDARD: PRT; 380 AA. AC 03432. DT 01-000-1937 (Rel. 35, Cented.) DT 01-000-1937 (Rel. 35, Least sequence update) D	PAL_200118 STANDARD PRT 380 AA.
	DAL ADMINISTRY STANDARD; PRT; 380 AA. DE 0.1007-1997 (Rel. 35, Cerela, 100 or 0.1007-1997 (Rel. 15, Least Sequence update) DE 10.1007-1997 (Rel. 14, Least sequence update) DE 10.1007-1997 (Rel. 14, Least sequence update) DE 10.1007-1997 (Rel. 14), Least sequence update) DE 10.1007-1997 (Rel. 15)	PAL_SON. STANDARD: PRT; 380 AA. AC 03432. DT 01-000-1937 (Rel. 35, Cented.) DT 01-000-1937 (Rel. 35, Least sequence update) D	PAL_200118 STANDARD PRT 380 AA.
	DAL ADMINISTRATION STANDARD; PRT; 180 AA. DE 0.1007-1997 [Rel. 13, Created DE 0.1007-1997 [Rel. 13, Last sequence update) DE 10.1007-1997 [Rel. 13, Last sequence update) DE 10.1007-1997 [Rel. 14, Last senocation update) DE Pregnancy-seccited process of security DE Pregnancy-seccited process DE Pregnancy-seccited process DE 10.1007 [Rel. 10.1007] DE 10.1007 [Rel. 10.	PAL_2007.0718 STANDARD: PRT; 380 AA. P. 0343.0718 STANDARD: PRT; 380 AA. P. 0343.0718 STANDARD: A. CREATER STANDARD: D. O0007.1997 (Rel. 35, Least Sequence update) P. 107-107-2007 (Rel. 41, Least smoothatton update) P. PERGRANDAR-SEGOLIAGE STANDARD (REL. 41, Least smoothatton update) P. PERGRANDAR-SEGOLIAGE STANDARD (REL. 41, Least smoothatton update) P. PERGRANDAR-SEGOLIAGE STANDARD (REL. 41, Least smoothatton update) R. PERGRANDARD (REL 41, Least smoothatton update) R. PER	PAL_SOUTH STANDARD: PRT; 380 AA. TO ONG-1001 STANDARD: PRT; 380 AA. DT 01-0001-1907 [Rel. 13, Least sequence update) DT 01-0001-1907 [Rel. 14, Least amontation update) DF 02-0001-1907 [Rel. 14, Least amontation update) Rel. 1007 [Rel. 14, Least amontation update) DF 02-0001-1907 [Rel. 14, Least amontation update) Rel. 1007 [Rel. 14, Least amontation update) Rel. 1007 [Rel. 14, Least amontation update) Rel. 1007 [Rel. 14, Least amontation update)
	Dec. Proc. 180 AA.	PAL_2001171 STANDARD: PRT; 380 AA. R. 03813017 STANDARD: PRT; 380 AA. DT 01-00012997 [Rel. 135, Least Sequence update) DT 01-00012997 [Rel. 14], Least sequence update) DF PRESENCE SESSOCIATED (Rel. 14), Least sequence update) Rel. 1001171 [Rel. 14], Least sequence update)	PAGL_2007131 PAGL_2007131 DE ORG.1507131 DE ORG.1507132 DE ORG.1507132 DE ORG.1507132 DE SERVEL1927 DE DESCRIPTION OF THE SERVEL
	100.000 100.0000 10	PALL SOUTH STANDARD: PRT; 380 AA. TO ONE STANDARD: A STANDARD: PRT; 310 AA. DT 01-000-1597 [Rel. 13, Least sequence update) DT 01-000-1007 [Rel. 14, Least sequence update) DE Preparaty-sesociated proported in Precursor (EE 3.4.23) (RAC PART) DE Preparaty-sesociated proported in PRP-B).	PAGL 2007131 DO ONG 12007131 DO ONG 12007131 DO ONG 12007132 DO ONG 120071327 D
	Thun Annual STANDARD; PRT; 180 AA. DE 01-200-1997 [Rel. 13, Cented.] DE 01-200-1997 [Rel. 13, Last Sequence update.) DE 12-200-2002 [Rel. 13, Last sequence update.) DE Pregnancy-seculities of 1, Last annualiston update.) DE Pregnancy-seculitie protein B) [PRP-B). DE Pregnancy-seculitie protein B) [PRP-B). DE Pregnancy-seculitie protein B) [PRP-B).	MAL 200713 STANDARD: PRT, 380 AA. DE ORGANISTE STANDARD: PRT, 380 AB. DE OL-MOY-1997 [Rel. 135, Cented. 135, Cented. 156, Cented. 157, Cented. 136, Leaf sequence update.) DE PRESENTATION TO THE STANDARD OF THE STANDARD	PAG_2007131 PAG_2007131 DE 0466_2007131 PAG_20071397 P
	Pan_20011 STANDARD; PRT; 180 AA. R 0.943.20 Pan_20011 STANDARD; PRT; 180 AA. R 0.943.20 Pan_20012 Pan_	MAL_SOUTH STANDARD; PRT; 180 AA.	PAG_200713 D PAG_200713 D C ONVOL;597 [Rel. 35, Careled B D C ONVOL;597 [Rel. 41, Last sequence update) D D PAG_2007 [Rel. 41, Last sequence update) D PAG_2007 [Rel. 41, Last sequence update)
	Pan_200111	MAL_200138 STANDARD; PRT; 180 AA.	PAL_200713 STANDARD: PRT: 380 AA. D. OAGL_200713 STANDARD: PRT: 380 AA. D. C. OAGNO-1997 Real. 35, Carte-day DT 01-4007-1997 Real. 35, Late Sequence update; DT 01-4007-1997 Real. 34, Late sequence update; DE Prequancy-sascoitace at 1, Late anomalization update; DE Prequancy-specific protein 3) (PSP-B).
	100	Mal. 200138 STANDARD; PRT; 180 AA.	PAL_200718 STANDARD: PRT: 380 AA.
	1000	DML = Addingstram STRAMARD; PRT; 180 AA.	PAL_200718 STANDARD: PRT: 380 AA. D. 042140718 STANDARD: PRT: 380 AA. D. 042471997 [ABL. 35, Contend) DE 10-1007-1297 [ABL. 15, Contend) DE 10-1007-1297 [ABL. 15, Contends the update) DE 10-1007-1297 [ABL. 14, Late annotation update) DE Prognancy-saccarated stycoprocents in precursor (BC 3.4.23) (PAC M PAL.) DE ROMAN PALL STANDARD [ABL. 10, Late annotation update)
	1000-1664 190138 STANDARD) PRT; 310 AA. C 93433; PRL; 32 CARLED PRL; 32 CARLED PR 900-1939; PRL; 32 CARLED PRL; 32 CARLED PR 900-1939; PRL; 32 CARLED PRL; 32 CARLED PR 900-1939; PR 900-1	Dec. Additional STANDARD; PRT; 100 AA.	DAL SOLINGORIA GENERALD: DEC. 100 AA.
	100 664.13 101.13 270.00.00.00.00.00.00.00.00.00.00.00.00.0	DML = MALINDETH STANDARD; PRT; 180 AA.	PAL 2004 (1907) 67 NARAHD: PRT; 310 AA. A. (0.3942); PAL 2004 (1907) 67 NARAHD: PRT; 310 AA. PAL 0.3942); PAL 2004 (1907) 67 NARAHD: PAL 2004 (1907) 67 NA
	100 60.45 100.00 10	DAL AND	PAL 2004 (1907) STANDARD: PRT; 180 AA. A Q39412; PAR Q
	100 60.04	DAL AND	PAL 2007 (1907) STANDARD: PRT; 310 AA. AC 029312; PARCHARD: 15, CREMENT STANDARD: PRT; 310 AA. DY 01907159; PARCHARD: 15, CREMENT STANDARD: PARCHARD STANDARD: PARCHARD STANDARD STAN
	1000-1601.20011 200 AA. 200 AA. 200 AA. 200 AA. 200 AB. 200 AB	DAL ADMINISTRY STANDARD PRT; 100 AA.	PAL 2007 1907 STANDARD: PRT; 310 AA. AC 039312; PARCHARD: 15, CORNELOR OF THE STANDARD: PRT; 310 AA. DT 01-000-1590; PRE: 15, Less esquence update) DE PRESSION-2500 PRE: 15, Less esquence update)
	100 60.04 10	DAL ADMINISTRATION STANDARD PRT; 380 AA. DAL ADMINISTRATION STANDARD PRT; 380 AA. DAL ADMINISTRATION STANDARD DAL ADMINISTRATION STANDARD	PAL 2013/190711 STANDARD: PRT; 310 AA. A. 0.9313/2. DT 01-000/1957 (FML 12) ALC SEQUENCE UPDARC) DT 01-000/1957 (FML 12) ALC SEQUENCE UPDARC) DE PRESENCY-SEGUENCE (SEGUENCE UPDARC) DE PRESENCY-SEGUENCE (SEGUENCE) [PRESENCE (DE 3.4.23) (PAC DE PRESENCE (DE 3.4.23) (PAC DE SEQUENCY-SEGUENCE (DE DEVELOR DE PRESENCE (DE 3.4.23) (PAC DE SEQUENCY-SEGUENCE (DE DEVELOR DE SEGUENCE (DE 3.4.23) (PAC DE SEGUEN
	Dec. April Dec.	DAL ADMINISTRATION STANDARD; PRT; 160 AA. C 034312; C 0400.2597 (Rel. 15), C CREAGE update; DT 0.1000.1397 (Rel. 15), C CREAGE update; DT 0.1000.1397 (Rel. 15), C CREAGE update; DE PROGRAMMENT (Rel. 15), C CREAGE update; DE PROGRAMMENT SPECIFICATE (SPECIFICATE) D	PAL 2007-1907 STANDARD: PRT; 180 AA. AC 039332. D1 01-000-1907 (Ref. 15, Lowell or sequence update) D2 01-000-1907 (Ref. 15, Lowell or sequence update) D2 01-000-1907 (Ref. 15, Lowell or sequence update) D3 01-000-1907 (Ref. 15, Lowell or sequence update) D4 01-000-1907 (Ref. 15, Lowell or sequence update) D5 01-000-1907 (Ref. 15, Lowell or sequence update) D5 01-000-1907 (Ref. 15, Lowell or sequence update)
	Dec. Bold Dec.	100 361.10011 STANDARD: PRT: 380 AA. C 03933; P. C 0390;	PAL 2007 1971 STANDARD: PRT; 180 AA. AC 035322. D1 03.005.1907 (Red. 15, Centellor update) D2 03.005.1907 (Red. 15, Lentellor update) D3 03.005.1907 (Red. 15, Lentellor update) D6 05.005.1907 (Red. 15, Lentellor update) D7 05.005.1907 (Red. 15, Lentellor update) D7 05.005.1907 (Red. 15, Lentellor update) D7 05.005.1907 (Red. 15, Lentellor update) D8 05.005.1907 (Red. 15, Lentellor update) D8 05.005.1907 (Red. 15, Lentellor update) D8 05.005.1907 (Red. 15, Lentellor update)
	Dec. Bold Dec.	1002013 (1907) STANDARD: PRT; 380 AA. C 033432; O 00	PAL 2007 1 STANDARD: PRT; 180 AA. A 034322. D1 03007-1937 (Rel. 135, Centello 150, C
	DAL	10A. 2013 10V11 STANDARD: PRT; 380 AA. C 035321. D1 03007-1997 (Rel. 135, Centello Control Con	MAL SHOWING STANDARD; PRT; 380 AA. D1 02:000-1997 (Rel. 135, Cented) D2 01:000-1997 (Rel. 135, Cented) D3 02:000-1997 (Rel. 135, Lented) D4 03:000-1997 (Rel. 14) D5 03:000-1997 (Rel. 14) D6 03:000-1997 (Rel. 15) D7 03:0
	Dec. Part	10A. 2013 10011 STANDARD: PRT; 380 AA. C 034312. DT 01.000-1997 (Red. 13, Least Sequence update) DT 01.000-2997 (Red. 13, Least Sequence update) DT 10.000-200-2007 (Red. 14, Least Sequence update) DT 10.000-200-2000 (Red. 14) Least Sequence update) DT 10.000-200-200-200-200-200-200-200-200-20	MAL
	DAL SALABORIA STANDARD PRT; 380 AA. DAL	10A. 2013/190711 STANDARD: PRT; 380 AA. A 034312. DT 01-007-1997 (Red. 135, Cereals) DT 01-007-2997 (Red. 135, Leat Sequence update) DT 32-007-2007 (Red. 14, Leat semantation update) DT 19-007-2007 (Red. 14) Leat semantation update) DE Pregenancy semociation (Leat Computed to the Computed C	MAL_MONTH
	DAL SALINOVIAN STANDARD; PRT; 380 AA. DE 03/332; DE	PAL. 2007. 100 STANDARD: PRT; 310 AA. A. 034312. 10. 10. 10. 10. 10. 10. 10. 10. 10. 10	PAL_BOWING STANDARD; PRT; 380 AA.
	DAL AGE STANDARD PRT 380 AA. DE 0.35132. DE 0.35132. DE 0.35132. DE 0.1007-1997 (Rel. 15, Least sequence update) DE 1.307-1997 (Rel. 15, Least sequence update) DE 1.307-2007 (Rel. 14, Least sequence update) DE 1.507-2007 (Rel. 14, Least sequence update) DE 1.507-2007-2007 (Rel. 14, Least sequence update) DE 1.507-2007-2007-2007-2007-2007-2007-2007-2	PAL_2007 NOT STANDARD: PRT; 350 AA. A 03432 N. DT 01-007-1937 (Rel. 13, Least sequence update) DT 01-007-1937 (Rel. 13, Least sequence update) DT 15-207-2002 (Rel. 14, Least semantation update) DT 15-207-2002 (Rel. 14, Least semantation update) DT 15-207-2002 (Rel. 14, Least semantation update)	PAL_BOWNING STANDARD; PRT; 180 AA.
	Figura 1864 1907 190 AA. 190	PAL_2001 TO TANNORD: PRT; 350 AA. R 0343 DT TANNORD: PRT; 350 AA. DT 01-007-1937 (Red. 13, Least Sequence update) DT 01-007-1937 (Red. 14, Least sequence update) DT 15-007-1937 (Red. 14, Least sequence update) DT 15-007-1939 (Red. 14, Least sequence update) DT 15-007-1939 (Red. 14, Least sequence (Red. 14, Least s	PAL_POTEST STANDARD PRT 380 AA.
	Figura 1867, 1907 STANDARD; PRT; 180 AA. AC 034322. DT 01-007-1937 Red. 135, Cented or pidate) DT 01-007-1937 Red. 135, Least Sequence update) DT 15-107-1030 Red. 15, Least Sequence update) DT 15-107-1030 Red. 14, Least Sequence update) DE Pregnancy-standards (REd. 14, Least Sequence (RED. 14, Least Sequ	PAL_2001111 STANDARD: PRT; 380 AA. D. 08450111 STANDARD: PRT; 380 AA. D. 0.1007-1597 (Rel. 35, Cented to update) DT 0.1007-1597 (Rel. 35, Least Sequence update) DT 10.1007-2007 (Rel. 41, Least sequence update) DF 10.1007-2007 (Rel. 41, Least sequence update) DF 10.1007-2007 (Rel. 41, Least sequence update)	PAL_POTEST PAL
	Foundation STANDARD; PRT; 180 AA.	PAL_200131	PAL_POWNING PAL_POWNING PART, 380 AA.
	Pau_2017011 STANDARD; PRT; 180 AA. R 0.8451.0011 STANDARD; PRT; 180 AA. R 0.8451.0011 STANDARD; PRT; 180 AA. R 0.8451.0011 STANDARD; PRT; STANDARD; R 0.1001.0011 STANDARD	PAL_20013 Dec. PAL_20013 STANDARD; PRT; 380 AA. Dec. PAL_20013 STANDARD; PRT; 380 AA. DEC. DEC. PAL_20013 PAL_20013 DEC. PAL_20013 PAL_20013 DEC. PAL_20013 PAL_20013 DEC. PAL_20013 PAL_20013 DEC.	PAL_200713 PAL
	Mon_good Man. STANDARD, PRT; 380 AA.	PAL_200131 STANDARD; PRT; 180 AA.	PAL_200718 TO PAL_200718 TO PAL_200718 TO PAL_200718 TO PAL_20071997 TO TO TO PAL_20071997 TO T
	Mon_govy 18 STANDARD; PRT; 380 AA. TO REAL-DOVIN STANDARD; PRT; 380 AA. DE 01-200-1997 (Rel. 35) Created by Control of the C	MALLENT MALLENT STANDARD) PRT7, 380 AA. 10 PRALLENT STANDARD) PRT7, 380 AA. 10 PRALLENT STANDARD) STANDARD MALLENT M	PAGL_2007138 STANDRAD: PRE7, 380 AA. D. PAGL_2007138 STANDRAD: PRE7, 380 AA. D. C. OLYNO, 1997 [Real. 55, Created) D. D. C. OLYNO, 1997 [Real. 55, Created) D. D. C.
	Manager Mana	MALLEOTH STANDARD; PRT; 380 AA. 10 PRALLEOTH STANDARD; PRT; 380 AA. 11 STANDARD; PRT; 380 AA. 11 STANDARD; PRT; 380 AA. 12 STANDARD; PRT; 380 AA. 12 STANDARD; PRT; 380 AA.	MACLEGYIN STANDARD: PRE7: 380 AA. 10 FRELL DOVIN STANDARD: PRE7: 380 AA. 10 743-7897 (Red. 15) Created) 10 10 10 10 10 10 10 10 10 10 10 10 10 1
	TO THOSE DOVIN STANDARD, PRT, 380 AA. CONSTRUCTORS STANDARD, PRT, 380 AA. CONSTRUCTORS STANDARD, PRT, 380 AA. CONSTRUCTORS STANDARD, PRT, 380 AA. DE 10-107-207-207-207-207-207-207-207-207-207-2	MALLEOTH STANDARD: PRT; 380 AA. 1D FRALLEOTH STANDARD: PRT; 380 AA. 0743197 (Red. 15, Created) DT 10 NWO-1997 (Red. 15, Leat sequence update) DT 15-JUN-2002 (Red. 14, Leat sequence update) DT 15-JUN-2002 (Red. 14, Leat sequence update) DT 15-JUN-2002 (Red. 14, Leat sequence update)	MACLEGYIN STANDARD: PRET; 380 AA. 10 FRELLEGVIN STANDARD: PRET; 380 AA. 10 10 10 10 10 10 10 10 10 10 10 10 10 1
	FOLLOWIN STANDARD, PRT, 380 AA. C 0740/1997 (Rel. 15, Created) DT 071-WOV-1997 (Rel. 15, Created) DT 071-WOV-1997 (Rel. 14, Lass annotation update) DT 157-UNF-2007 (Rel. 14, Lass annotation update)	MALLBOYIN STANDARD; PRT; 380 AA. 10 FRALLBOYIN STANDARD; PRT; 380 AA. A 07407-1997 (Red. 15, Created) TO 1707-1997 (Red. 14, Late annotation update) PT 51-UNF-2007 (Red. 14, Late annotation update)	MACLEGYIN STANDARD: PRET; 380 AA. TO FREEL DOVIN STANDARD: PRET; 380 AA. AC 024021997 (Red. 35, Creeted) TO 10-000-1997 (Red. 41, Leas amontaction update) PT 50-000-1997 (Red. 41, Leas amontaction update)
	TO 1901 DOVIN STANDARD, PRT, 380 AA. (2943-197) (Red. 35, Creeted) 10 10-00V-1997 (Red. 35, Leds Sequence update) 11 10-00V-1997 (Red. 41, Leds annotation update)	MACLIGOTH STANDARD: PRT; 380 AA. C 07407-1977 (Red. 35, Created) TO 10-0007-1957 (Red. 35, Led Edgemenc update) TO 17-0007-1957 (Red. 14, Lede annotation update)	PACL BOWIN STANDARD; PRET; 380 AA. C 024021. DY 101-80V-1997 (Red. 35, Created) TO 101-80V-1997 (Red. 35, Leat Sequence update) DY 101-80V-1997 (Red. 41, Leat annotation update)
	TO 7001_BOVIN STANDARD; PRT; 380 AA. 0.09407.1997 (Red. 35, Creeked) PT 0.17007.1997 (Red. 35, Leds Sequence update) PT 0.17007.1997 (Red. 14, Leds annotation update)	MAN_BOWIN STANDARD; PRET, 380 AA. C 02402. DT 01-00V-1997 (Red. 35, Created) DT 01-00V-1997 (Red. 35, Leds Sequence update) DT 15-00V-2002 (Red. 41, Leds annotation update)	PACL_BOWIN STANDARD, PRT, 380 AA. C 024021. Dr 10.1804.1937 (Rel. 35, Created) Dr 10.1804.1937 (Rel. 35, Lest Sequence update) Dr 15.018.2002 (Rel. 41, Lest annotation update)
	TO PROLIDOVIN STANDARD; PRT; 380 AA. (2942). PRT; 380 AA. (2942). PRT; 380 AA. (2942). PRT; 380 AA. (2942). PRT; 380 AA.	PAGL_BOVIN STANDARD; PRET; 380 AA. C 024021, DT 01-00V-1597 (Red. 35, Created) DT 01-00V-1597 (Red. 35, Leds Sequence update) DT 15-UR-2002 (Red. 41, Leds annotation update)	PACL_BOWIN STANDARD, PRT, 380 AA. C 024021. Dr 10.1804.1997 (Rel. 35, Created) Dr 0.1804.1997 (Rel. 35, Leds Sequence update) Dr 15.018-2002 (Rel. 41, Leds annotation update)
	10 PAGLIGOTH STANDARD, PRT; 380 AA. C 029431, DAVIN C 029431,	PAGL_BOWIN STANDARD; PRET; 380 AA. C 024021, A. C 024021, D.	PACL_BOWIN STANDARD, PRT, 380 AA. C 0243-1. Dr 01-NOV-1597 (Rel. 35, Created) Dr 01-NOV-1597 (Rel. 32, Last Sequence update) Dr 15-UN-25002 (Rel. 41, Last annotation update)
	10 PAGLIGOTH STANDARD, PRT; 380 AA. C 029431,	10 - PAGL_BOVIN STANDARD, PRT, 380 AA. 6 029431, 6 029431, 6 029431, 6 029431, 6 029431, 6 029431, 6 01.40v.1997 (Rel. 13. Lest sequence update) DT 15.74Wr-2092 (Rel. 14. Lest sequence update) DT 15.74Wr-2092 (Rel. 14. Lest sequence page 15.74Wr-2092 (Rel. 14. Lest semication update)	PAGL_BOWIN STANDARD, PRT; 380 AA. A (2542) BOYIN STANDARD, PRT; 380 AA. DT (1242-1597 (Rel. 135, Created) DT (1147-1597 (Rel. 135, Last Sequence update) DT 15-URY-2002 (Rel. 41, Last annotation update)
	10 - PAGL_BOVIN STANDARD, PRIT, 380 AA. 6 029431, 6 029431, 5 020426 D1 - 1001-1007-1997 (Rel. 35, 020426) D1 - 1001-1007-1997 (Rel. 35, 1204 sequence update) D7 15-0707-1002 (Rel. 41, 1204 semiotation undate)	10 PAGL_BOVIN STANDARD, PRT, 380 AA. 70 C29433. DT 0.1949.1997 (Rel. 35, Created) DT 0.1949.1997 (Rel. 35, Last sequence update) DT 1.57-1917.2002 (Rel. 31, Last sequence update) DT 1.57-1917.2002 (Rel. 41, Last annotation undate)	10 PAGL_BOVIN STANDARD, PRT; 380 AA. AC. AC. 25943. Dr. O. 29943. Dr. O. 29949. Dr. O. 29949. Dr. O. 29949. Rel. 35, Created) Dr. Olyvi-1997 (Rel. 35, Cast Sequence update) Dr. 157-1917-2002 (Rel. 41, Last Sequence update) Dr. Syniv-2002 (Rel. 41, Last Semichation undate)
	TO TABLE BOAN. TO TRAIL BOAN. C 259431. D1 10.1001-1997 (Rel. 135, Created) D2 10.1001-1997 (Rel. 135, Last sequence update) D2 11.0001-1997 (Rel. 131, Last sequence update) D3 15.001-1907 (Rel. 131, Last sequence update)	10 PAGL_BOVIN STANDARD, PRIT, 380 AA. 10 PAGL_BOVIN STANDARD, PRIT, 380 AA. 0.293432, DO. 10.90v.1997 (Rel. 35, Created) 10 1.90v.1997 (Rel. 35, Last sequence update) 15 -IIII-2002 (Rel. 41, Last sequence update) 15 -IIII-2002 (Rel. 41, Last annotation undate)	10 PAGL_BOVIN STANDARD, PRT, 380 AA. AC. ACAL_BOVIN CANDARD, PRT, 380 AA. AC. 20343. Dr. 20343. Dr. 201.100.100.100.100.100.100.100.100.100.
	10 - PAGL_BOYAN STANDARD, PRT, 380 AA. 10 - RAGL_BOYAN STANDARD, PRT, 380 AA. 0 203433, D. 10 10 10 10 10 10 10 10 10 10 10 10 10	10 PAGL_BOVIN STANDARD, PRT, 380 AA. 10 PAGL_BOVIN STANDARD, PRT, 380 AA. 6 293432, DT 01.90V.1997 (Rel. 35, Created) DT 01.80V.1997 (Rel. 35, Last sequence update) DT 15.80V.1997 (Rel. 31, Last sequence update) DT 15.80V.1997 (Rel. 31, Last sequence update)	1D RAGI_BOVIN 1D RAGI_BOVIN STANDARD, PRT; 380 AA. 0.29943, D. 10.100v.1997 (Red. 35, Created) DT D. 100v.1997 (Red. 35, Created) DT STANDARD (Red. 35, Created) DT STANDARD (Red. 31, Last sequence update) DT 14.701707 (Red. 31, Last sequence update)
	10 PAGL_BOYAN 10 PAGL_BOYAN 10 PAGL_BOYAN 10 Y0.94397 (Rel. 35, Created) 10 1.989v.1997 (Rel. 35, Cast sequence update) 10 1.889v.1997 (Rel. 35, Cast sequence update) 10 1.889v.1997 (Rel. 31, Seat sequence update)	1D PAGL_BOVIN STANDARD, PRT, 380 AA. 1D PAGL_BOVIN STANDARD, PRT, 380 AA. 0.299432, D.100.1997 (Rel. 35, Created) 1D 1.100.1997 (Rel. 35, Cast sequence update) 1D 1.100.1997 (Rel. 35, Cast sequence update)	1D RAGI_BOVIN STANDARD, PRT; 380 AA. A 0.29343. DT 01.90V:1997 (Rel. 35, Created) DT 01.80V:1997 (Rel. 35, Created)
	FAML_DAY18 AC 093432; DT 01-1007+1997 (Rel. 35, Created) DT 01-1007+1997 (Rel. 35, Last sequence update)	1D RAGI_BOVIN STANDARD, PRT; 380 AA. 1D RAGI_BOVIN STANDARD, PRT; 380 AA. 0.203433, 0.00347 (Rel. 35, Created) DT 01.HWW-1997 (Rel. 35, Last sequence update)	1D RAGI_BOVIN 1D RAGI_BOVIN STANDARD, PRT; 380 AA. A 029343, D. 01.00v.1997 (Rel. 35, Created) DT 01.00v.1997 (Rel. 35, Last sequence update)
	PARL DAY 138 AC 029432; DF 01-NOV-1997 (Rel. 35, Last sequence update)	PARL_BOURN TD PAGL_BOURN STANDARD; PRT; 380 AA. AC 929432; DF 01-NOV-1997 (Rel. 35, Created) DF 01-NOV-1997 (Rel. 35, Last sequence update)	TO TABLE BOYAN STANDARD; PRT; 380 AA. O 203431. DT 01.980v.1997 (Rel. 35, Croated) DT 01.980v.1997 (Rel. 35, Last sequence update)
	PARL DAY 18 PR 1 P	PARL_DOWN: TD PAGL_DOWN STANDARD; PRT; 380 AA. AC 029432; DT 01-NOV-1997 (Rel. 35, Created) DT 01-NOV-1997 (Rel. 35, Last sequence update)	PAGL_BOWIN TD PAGL_BOWIN AC Q29432; DT 01-NOW-1997 (Rel. 35, Created) DT 01-NOW-1997 (Rel. 35, Last sequence update)
	PANL DAY 13M TD PASI 2007H STANDARD; PRT; 380 AA. AC 929432; DT 01-NOV-1997 (Rel. 35, Created) DT 01-NOV-1997 (Rel. 35, Last sequence update)	PANL_DOWIN TD PAGL_DOWIN STANDARD, PRT; 380 AA. AC Q29432; DT 01.NOV-1997 (Rel. 35, Created) DT 01.NOV-1997 (Rel. 35, Last sequence update)	PAGL_BOWIN TD PAGL_BOWIN AC 029432; DT 01-100V-1997 (Rel. 35, Created) DT 01-100V-1997 (Rel. 35, Last sequence update)
	PARLY 17 PARLY 17 PRT; 380 AA. AC Q29432; DT 01.NOV-1997 (Rel. 35, Created) DT 01.NOV-1997 (Rel. 35, Last Sequence update)	PANL_BOWIN TD PR61_BOWIN STANDARD, PRT; 380 AA. AC 029432; DT 01.NOV-1997 (Rel. 35, Created) DT 01.NOV-1997 (Rel. 35, Last Sequence update)	PAGL_BOWIN TD PAGL_BOWIN AC 029432; DT 01-NOV-1997 (Rel. 35, Created) DT 01-NOV-1997 (Rel. 35, Last Sequence update)
	170AL_2013.00VIN STANDARD). PRT; 360 AA. A. 0. 0293.20 (Rel. 35, Crested). DT 01-10V-1997 (Rel. 35, Last Sequence undate). DT 01-10V-1997 (Rel. 35, Last Sequence undate).	PANL_BOURN TD PASL_BORN STANDARD, PRT; 380 AA. AC 029432; DT 01-NOV-1997 (Rel. 35, Created) DT 01-NOV-1997 (Rel. 35, Last Sequence undate)	PAGL_BOWIN TD PAGL_BOWIN AC 029432; DT 01-NOV-1997 (Rel. 35, Created) DT 01-NOV-1997 (Rel. 35, Last Sequence undate)
	THOLDERING STANDARD; PRT; 380 AA. COS412 POYN. 1997 (Feb. 1.3, Create) DT 01-MOV-1997 (Feb. 1.3, Create) List sequence undetes	FACT BACT	PAGL_BOWIN TD PAGL_BOWIN AC 029432; DT 01-100V-1997 (Rel. 35, Created) DT 01-100V-1997 (Rel. 35, Last securence undate)
	THOUSENEY STANDARD; PRT; 380 AA. 170. 1941.2007.1807.180 AA. 170. 0341.2007.1807.180.180.180.180.180.180.180.180.180.180	PROLIBOYIN STANDARD; PRT; 380 AA. PROLIBOYIN STANDARD; PRT; 380 AA. PROLIBOYING PROLIBORING PRT; 380 CARACHION PRT; 380 C	PAG1_BOVIN STANDARD; PRT; 380 AA. PAG1_BOVIN STANDARD; PRT; 380 AA. PAG1_BOVIN STANDARD; PRT; 180 AA.
	TO TO THE TOTAL TH	PROLIBOVIN STANDARD; PRT; 380 AA. PAGLIBOVIN STANDARD; PRT; 380 AA. PAGLIBOVING STANDARD; PRT; 380 AA. DT 01.NVV-1297 (Red. 35, Create exprisions made as a constant and a	PAG1.BOVIN STANDARD; PRT; 380 AA. D FAG1.BOVIN STANDARD; PRT; 380 AA. O 13404.1997 (Red: 35, Created) DT (1.1MV-1997 (Red: 35, Created)
	TOWN-1807IN STANDARD; PRT; 380 AA.	PROLIBOVIN STANDARD; PRT; 380 AA. 1 PAGL_BOVIN STANDARD; PRT; 380 AA. 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	PAG1.BOVIN STANDARD; PRT; 380 AA. O 07941.BOVIN 57ANDARD; PRT; 380 AA.
	TO TO THE STANDARD, PRT; 380 AA. (2012) 1997 (Rel. 35, Created)	РИСТ 1907 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	РАС1_ВОУГИ STANDARD; РЕП.; 380 AA. О 7241-1971 (Rel. 35, Created)
	TO TO THE STANDARD, PRT; 380 AA. AC 0242197 (Rel. 35, Created)	FRALLBOVIN STANDARD; PRT; 380 AA. AC 0249-0219 (Rel. 35, Created)	PAG1_BOVIN STANDARD; PRT; 380 AA. O 2040_BOVIN STANDARD; PRT; 380 AA. O 1.000*1997 (Rel. 35, Created)
	TO TO THE STANDARD, PRT; 380 AA. AC 0242197 (Rel. 35, Created)	FRALLBOVIN STANDARD; PRT; 380 AA. AC 0249-0219 (Rel. 35, Created)	PAG1_BOVIN STANDARD; PRT; 380 AA. O 2040_BOVIN STANDARD; PRT; 380 AA. O 1.000*1997 (Rel. 35, Created)
	TOWL_BOVIN STANDARD, PRT; 380 AA. TO PAGL_BOVIN STANDARD, PRT; 380 AA. C 02-90; (Rel. 35, Created) DT 01-907-1997 (Rel. 35, Created)	PRACLEGUIN STANDARD; PRT; 380 AA. AC Q2-Q2-Q1 (Rel. 35, Created)	PAGLEDOTH STANDARD; PRT; 380 AA. TO PAGLEDOTH STANDARD; PRT; 380 AA. Q 02497; (Rel. 35, Created) DT 01-907-1997 (Rel. 35, Created)
	TWALLBOVIN STANDARD; PRT; 380 AA. TO PARALLBOVIN STANDARD; PRT; 380 AA. Q 29437, DT 01.00V-1997 (Rel. 35, Created)	PRACLEGUIN STANDARD; PRT; 380 AA. TO PARCLEGUIN STANDARD; PRT; 380 AA. Q 29434; PP 029434; PP 029434;	PAGL_BOVIN 1D PAGL_BOVIN STANDARD; PRT; 380 AA. AC 02943.7 DT 01.NOV-1997 (Rel. 35, Created)
	PRULLBUYIN STANDARD; PRT; 380 AA. AC 0293432; DT 01-W07-1997 (Rel. 35, Created)	PAGL_BOVIN TO PAGL_BOVIN STANDARD; PRT; 380 AA. AC 029433. DT 01:NOV-1997 (Rel. 35, Created)	PAGL_BOVIN ID PAGL_BOVIN STANDARD; PRT; 380 AA. AC 029437. DT 01.NOV-1997 (Rel. 35, Created)
	PRULLBUYIN STANDARD; PRT; 380 AA. 1D PRALLBUYIN STANDARD; PRT; 380 AA. DF 01-807-1997 (Rel. 35, Created)	PAGL_BOVIN 1D FPAGL_BOVIN STANDARD; PRT; 380 AA. AC 02943-2; DF 01-807-1997 (Rel. 35, Created)	PAGL_BOVIN ID PROCL_BOVIN STANDARD; PRT; 380 AA. AC 029433. DT 01.NOV-1997 (Rel. 35, Created)
	PRUJ_BOVIN 1D PRAIL_BOVIN STANDARD; PRT; 380 AA. 0 Q-93432; DF 01-977 (Rel. 35. Created)	PAGI_BOVIN 1D FPAGI_BOVIN STANDARD; PRT; 380 AA. 0 Q-93432; DF 01-977 (Rel. 35. Creshed)	PAGILBOVIA TO IMPGLEBVIAN STANDARD; PRT; 380 AA. O 293042; DT 01-807 (FeL. 35. Crested)
	FRALLEDVIN STANDARD; PRT; 380 AA. AC 92943; PF 01.9MV-1907 (PR) 15, Created)	PAGI_BOVIN TO I_PAGI_BOVIN STANDARD; PRT; 380 AA. AC 0.29432; DP 01-MV-1947 Feel 35 Greated)	PAGI_BOVIN 1D PAGI_BOVIN STANDARD; PRT; 380 AA. 07 0,29332; DP 01-NAV-1947 FPs1 35 (Trested)
	FOULTH STANDARD; PRT; 380 AA. AC 92943; AC 01.8My12; AC 02043; AC 020442; AC 020442; AC 020442; AC 020442; AC 020444; AC 020444; AC 0204444; AC 020444; AC 0	PAGL_BOVIN PRI, 380 AA. AC 92943; AC 02943; AC 029442; AC 0294444	PAGI_BOVIN 1D PAGI_BOVIN STANDARD; PRT; 380 AA. AC Q29432; AP G1-20432; PAGI 7 AP G1-25 G1-25 AP G1
	FOULTH STANDARD; PRT; 380 AA. AC 92943; AC 01.8My12; AC 02043; AC 020442; AC 020442; AC 020442; AC 020442; AC 020444; AC 020444; AC 0204444; AC 020444; AC 0	PAGL_BOVIN PRI, 380 AA. AC 92943; AC 02943; AC 029442; AC 0294444	PAGI_BOVIN 1D PAGI_BOVIN STANDARD; PRT; 380 AA. AC Q29432; AP G1-20432; PAGI 7 AP G1-25 G1-25 AP G1
	FOULTH STANDARD; PRT; 380 AA. AC 02943; AC 02043;	PAGL BOVIN AC G2943; AC G2943; AC G2943;	PAGLEGOVIN AC GYSHAZ;
	FRALL BOYLON STANDARD; PRT; 380 AA. AC Q29432;	PANI_BOVIN PANI_BOVIN AC 029432;	PAGLEGOVIN AC Q29432;
	FRALL BOYLON STANDARD; PRT; 380 AA. AC Q29432;	PANI_BOVIN PANI_BOVIN AC 029432;	PAGLEGOVIN AC Q29432;
	FRALL BOYLN STANDARD; PRT; 380 AA. AC Q29432;	PAGL_BOVIN STANDARD; PRT; 380 AA. AC Q29432;	PAGL BOVIN TO PAGL BOVIN STANDARD; PRT; 380 AA. AC Q29432.
	FRALL BOYLN STANDARD; PRT; 380 AA. AC Q29432;	PAGL_BOVIN STANDARD; PRT; 380 AA. AC Q29432;	PAGL BOVIN TO PAGL BOVIN STANDARD; PRT; 380 AA. AC Q29432.
	FRAL_BOUIN STANDARD; PRT; 380 AA. AC Q29432;	PAGL_BOVIN STANDARD; PRT; 380 AA. AC Q29432;	PAGL_BOYIN ID PAGL_BOVIN STANDARD; PRT; 380 AA. AC Q29432;
	FRAL_BOUIN STANDARD; PRT; 380 AA. AC Q29432;	PAGL_BOVIN STANDARD; PRT; 380 AA. AC Q29432;	PAGL_BOYIN ID PAGL_BOVIN STANDARD; PRT; 380 AA. AC Q29432;
	FORT_BOVIN STANDARD; PRT; 380 AA. AC Q29432;	PAGL_BOVIN STANDARD; PRT; 380 AA. AC Q29432.	PAGL_BOVIN ID PAGL_BOVIN STANDARD; PRT; 380 AA. AC Q29432;
	FORT_BOVIN STANDARD; PRT; 380 AA. AC Q29432;	PAGL_BOVIN STANDARD; PRT; 380 AA. AC Q29432.	PAGL_BOVIN ID PAGL_BOVIN STANDARD; PRT; 380 AA. AC Q29432;
	FORT_BOVIN STANDARD; PRT; 380 AA. AC Q29432;	PAGL_BOVIN STANDARD; PRT; 380 AA. AC Q29432.	PAGL_BOVIN ID PAGL_BOVIN STANDARD; PRT; 380 AA. AC Q29432;
	FORT_BOVIN STANDARD; PRT; 380 AA. AC Q29432;	PAGL_BOVIN STANDARD; PRT; 380 AA. AC Q29432.	PAGL_BOVIN ID PAGL_BOVIN STANDARD; PRT; 380 AA. AC Q29432;
	FMAL_BOVIN STANDARD; PRT; 380 AA. AC Q29432;	PAGI_BOVIN ID PAGI_BOVIN STANDARD; PRT; 380 AA. AC Q2932;	PAGI_BOVIN ID PAGI_BOVIN STANDARD; PRT; 360 AA. AC Q2932;
	FMAL_BOVIN STANDARD; PRT; 380 AA. AC Q29432;	PAGI_BOVIN ID PAGI_BOVIN STANDARD; PRT; 380 AA. AC Q2932;	PAGI_BOVIN ID PAGI_BOVIN STANDARD; PRT; 360 AA. AC Q2932;
	BOVIN STANDARD; PRT;	BOVIN STANDARD; PRT;	SOVIN STANDARD; PRT;
	BOVIN STANDARD; PRT;	BOVIN STANDARD; PRT;	SOVIN STANDARD; PRT;
	BOVIN STANDARD; PRT;	BOVIN STANDARD; PRT;	BOVIN STANDARD; PRT;
	BOVIN STANDARD; PRT;	BOVIN STANDARD; PRT;	BOVIN STANDARD, PRT;
	BOVIN STANDARD; PRT;	BOVIN STANDARD; PRT;	BOVIN STANDARD; PRT;
	BOVIN STANDARD; PRT;	BOVIN STANDARD; PRT;	BOVIN STANDARD; PRT;
	BOVIN STANDARD; PRT;	BOVIN STANDARD; PRT;	BOVIN STANDARD; PRT;
	STANDARD; PRT;	BOVIN STANDARD; PRT;	BOVIN STANDARD; PRT;
	STANDARD; PRT;	BOVIN STANDARD; PRT;	BOVIN STANDARD; PRT;
	BOVIN STANDARD; PRT;	BOVIN STANDARD; PRT;	BOVIN STANDARD; PRT;
	BOVIN STANDARD; PRT;	BOVIN STANDARD; PRT;	BOVIN STANDARD; PRT;
	BOVIN STANDARD; PRT;	BOVIN STANDARD; PRT;	BOVIN STANDARD; PRT;
	BOVIN STANDARD; PRT;	BOVIN STANDARD; PRT;	BOVIN STANDARD; PRT;
	BOVIN STANDARD; PRT;	BOVIN STANDARD; PRT;	BOVIN STANDARD; PRT;
	BOVIN STANDARD; PRT;	BOVIN STANDARD; PRT;	BOVIN STANDARD; PRT;
	BOVIN STANDARD; PRT;	BOVIN STANDARD; PRT;	BOVIN STANDARD; PRT;
	BOVIN STANDARD: PRT:	BOVIN STANDARD: PRT:	BOVIN STANDARD: PRT:
	STANDARD: DRT:	STANDARD: PRT:	STANDARD: PRT:
	ONTH STANDARD	TAGE - GEANDARD - NEVO	TOO . CTANDABD .
	ONTH STANDARD	TAGE - GEANDARD - NEVO	TOO . CTANDABD .
	DOUTH SHANDARD.	DOUTH CHANNADD.	CHANDS CHANDS see.
	CONTRACTOR OF THE PERSON NAMED IN COLUMN	one of the same of	man distriction of the state of
	PAGI_BOVIN	PAGI_BOVIN	PAG1_BOVIN
	ENST BOATS	PAGT BOVIN	PAGI BOVIN
10 Pokolipovia Srambano, per; 380 AA. C 02432; PO 10-000-1397 (Rel. 13, Created) reservation of personal property of personal property of personal personal property of personal person		N TOOL SEC	PAG BOVIN
10 Pochlorum STANAND: PRT: 380 AA. C 02431. C 02432. PRT: 23. Created) FRT: 380 AA. DE 02432. PRT: 24. DE 02452. DE 02404.599 FRE: 35. Created) FRT: 34. DE 02404. DE 02404.599 FRE: 43. DE 02404. DE 02404.099 FRE: 43. DE 02404. DE 02404. DE 02404.099 FRE: 43. DE 02404. DE 02404.099 FRE: 43. DE 02404. DE 02404. DE 0240		2000	Date:
110 February SNAMARD, PRT; 380 AA. C 024312; PR 024312; PR 024312; PR 024313; PR 024313; Created PRT; 380 AA. PR 024413; PR 024413; PR 024413; Created PRT 024413;			NAME OF TAXABLE PARTY.
100 AGAILDOTTA STANDARD). C 034312. D1 01-00-1997 (Red. 15, Created). D2 01-00-1997 (Red. 15, Lorente property). D3 01-00-1997 (Red. 15, Lorente property). D2 01-00-1997 (Red. 15, Lorente property). D3 01-00-1997 (Red. 15, Lorente sequence update). D3 01-00-1997 (Red. 15, Lorente sequence property). D4 01-00-1997 (Red. 15, Lorente sequence property). D5 01-00-1997 (Red. 15, Lorente sequence property). D6 01-00-1997 (Red. 15, Lorente sequence property). D8 01-00-1997 (Red. 15, Lore			0.00
r r			

TISSUE-Discrete
MACHINE-S202221; PubMed-136444;
AX6 S. Lo et al. Waged R.J. Kremer K.K., Anthory R.V., Zoll A.P.,
Talentification of the major prognancy-specific antiques of Cattle
and sheep as inactive emedies of the appartic proteinsee family."
Proc. Natl. Acad. Sci. U. S.A. 88:12047-10231(99). (1) SEQUENCE FROM N.A., AND SEQUENCE OF 54-73.

MEDIZER ERME A. SERVICE STATES A. SERVICE STATES

This SMISS PROOF satisfy a logorithm. It is produced through a collaboration between the SMISS institute of Bioinformatics and the Bell contraction. The Empower and boinformatics institute. Price are no restrictions on its most part of and blue statement thous recompanies to other and the statement thous recompanies to other a statement of the statement is in two or we entities eventue a license agreement (see http://www.isb-sib.ch/nmonuce/or send an easil to licensesiab-sib.ch).

-! - SIMILARITY: BELONGS TO PEPTIDASE FAMILY AL.

InterPro; IPR001461; AspproteaseAl. EMBL; L2783; AAA96331.1; JOINED. EMBL; L27834; AAA96331.1; JOINED. MSSP; P00794; 4CMS. MEROPS; A01.971; -. EMBL; N73962; AAB53145.1; -. EMBL; L27832; AAA96331.1; -. PRINTS; PR00792; PEPSIN. Pfam; PF00026; asp; 1.

```
ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         HPLRNIMNLVYVGNITIGTPPOEFOVVFDTGSSDLWVPS-FCTMPACSAPVWFRQLQSST 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HPLRNIKDLVYMGNITIGTPPQEFQVVFDTASSDLWVPSDFCTSPACSTHVRFRHLOSST 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FOPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDOPFGLSVVEYGLEGRNYDGVLGLNY 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PNISFSGAIPIFDNLKNQGAISEPVFAPYLSKNKOEGSVVMFGGVDHQYYKGELNWIPLI 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181 PNISFSGAIPIFDKLKNORAISEPVFAFYLSKDERESSVVMFGGVDHRYYEGELNWVPLI 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    240 EAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTRPFDSKHY 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              OAGDWSVHMDRISIERKIIACSDGCKALVDTGTSDIVGPRRLVNNIHRLIGAIPRGSEHY 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VSCFATKYLPSITFIINGIKYPWTARAYIFKDSRGRCYSAFKENTVRTSRETWILGDAFL 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301 VPCSEVNTLPSIVFTINGINYPVPGRAYILKDDRGRCYTTFQENRVSSSTETWYLGDVFL 360
                             lydrolase: Aspartyl protease; Glycoprotein; Signal; Multigene family;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MKWIVLLGLVAFSECIVKIPLRQVKTMRKTLSGKNMLKNPLKEHPYRLSQISFRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MKWLVLLGLVAFSECIVKIPLRRLKTMRNVVSGKNMLNNFLKEHAYSLSOISFRGSNLTT 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (EC 3.4.23.-) (PAG 1).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Nagel R.J., Kramer K.K., Anthony R.V., Zoli A.P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                          .) (POTENTIAL).
                                                                                                                                                                                                                                                                                                                   N-LINKED (GLCNAC. . .) (POTENTIAL).
N-LINKED (GLCNAC. . .) (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                             N-LINKED (GLCNAC. . .) (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                 1; AA SEQUENCE).
1; AA SEQUENCE).
                                                                                                                                                 PREGNANCY-ASSOCIATED GLYCOPROTEIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             77.7%; Score 1559.5; DB 1; Length 380;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -> F (IN REF. 1; AA SEQUENCE)
77D6FFED68C445B6 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        28; Mismatches 54; Indels
                                                                                                                                                                                                                                                                                                                                                                                                    N-LINKED (GLCNAC. . . S -> H (IN REF. 1; AP TH -> PG (IN REF. 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    No. 2.3e-118;
                                                                                                                    ACTIVATION PEPTIDE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-NOV-1997 (Rel. 35, Last sequence update)
15-UNS-2002 (Rel. 41, Last annotation update)
Pregnancy associated glycoprotein 1 precursor
PAG1.
                                                                                                                                                                  BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            382 AA
                                                                                       POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4EDLINE-92052247; PubMed-1946444;
     PROSITE; PS00141; ASP_PROTEASE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-NOV-1997 (Rel. 35, Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RRYFSVFDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 361 RLYFSVFDRGNDRIGLARAV 380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   42847 NW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Xie S., Low B.G., Nagel R.J.,
Beckers J.-F., Roberts R.M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    78.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches 297; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Caprinae; Ovis.
                                                                                                              380
89
270
265
337.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ovis aries (Sheep).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   380 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                          Symogen; Antigen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID=9940;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TISSUE-Placenta;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PAG1_SHEEP
028755;
                                                                                                                                                                  ACT_SITE
ACT_SITE
DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mammalia;
                                                                                                                                                                                                                                                                                                                                                                                                    CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3ovidae;
                                                                                                                                                                                                                                                                                                                   CARBOHYD
                                                                                                                                                                                                                                                                                                                                                CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                             CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                 CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                         CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SPOUENCE
                                                                                                              PROPEP
                                                                                 IGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PAG1_SHEEP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         e
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RAKKR RAKARAN AND COOCOS SEE PROPERTY TO COOC
844444444444444444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
```

```
INNETION PREPARES OF BE PROTECTICALLY INACTIVE.

SPECIALLY LOCATOR: Extracelliar:

TISSUE EXPERITORT: PROTECTION: Extracelliar:

SECTIOLAL IN THE INNESTWE INNELSANT CHILD OF THE PLACENT.

SECTIOLAL IN THE INNESTWE INNELSANT CHILD OF THE PLACENT.

SHALLMENT: RELOGGE TO EMPTINES EMAILY
                                                                                                                                                                                                     Buckpean BigGorantica Institute, There are no restrictions on its by non-profit institutions as long as its content is in no way middled and this statement in nor removed. Usage by and for commercial entitles requires a license agreement (see http://www.isb-sib.ch/announce/crand on maxil to license@ispeanch();
                                                                                                                                                                   This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                            PROSITE: PS00141; ASP_PROTEASE; 1. Hydrolase; Aspartyl protease; Glycoprotein; Signal; Multigene family;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61 HPLRNIMNLVYVGNITIGTPPOZEQVVFDTGSSDLAVPSF-CTAPA---CSAPVWFRQLQ 116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61 HPLRNIMDMLYVGNITIGTPPQEFQVVFDTGSSDLLVPSINCLSPTRRPCSKQDKFKHHQ 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    117 SSTFOPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDOPFGLSVVEYGLEGRNYDGVLG 176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     177 LNYPNISFSGAIPIFDNLKNOGAISEPVFAFYLSKNKOEGSVVMFGGVDHOYYKGELNWI 236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       180 LNYPKISFSGAIPIFDKLKNEGAFSEPVFAFYLNKDKQEGSVVMFGGVDHRYYKGELNWV 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PLIEAGEWRYHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTRPFDS 296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          297 KHYVSCFATKYLDSITFIINGIKYPMTARAYIFKDSRGRCYSAFKENTVRTSRETWILGD 356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        30 EYFVSCSAVYALPSIVFTINGINYPVPPQAYLVKDSRGOCYSPPOVNRANPSAENWILGD 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 MKWLVLLGLVAFSECIVKIPLRRVKTMRNTLSGKKMLNSFLKEHAYRLSOISFRASNLTI 60
"Identification of the major pregnancy-specific antigens of cattle
and sheep as insactive members of the aspartic proteinase family.";
Proc. Walt. Acad. Sci. U.S.A. 88:10247-10551(1991).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 MKWIVLLGLVAFSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGSNLTI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          N-LINKED (GLCNAC. . .) (POTENTIAL)
N-LINKED (GLCNAC. . .) (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACTIVATION PEPTIDE (POTENTIAL).
PREGNANCY-ASSOCIATED GLYCOPROTEIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ( POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 382;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 69: Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                D28E4D78BB5BFE8C CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ANCESTRAL ACTIVE SITE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 1387.5; DB 1.
Pred. No. 1.7e-104;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             35; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BY SIMILARITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              N-LINKED
N-LINKED
                                                                                                                                                                                                                                                                                                                                      MEROPS; A01.971; -.
InterPro; IPR001461; AspproteaseA1.
InterPro; IPR001969; Aspprotease_site.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          357 AFLRRYFSVFDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           360 VFLRRYFSVPDRGNDRIGLABAV 382
                                                                                                                                                                                                                                                                                                                                                                                                       PRINTS; PRO0792; PEPSIN.
PROSITE; PS00141; ASP_PROTEASE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ž
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              69.1%;
                                                                                                                                                                                                                                                                                                        EMBL; N73961; AAB53144.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                42979
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 274: Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           89
                                                                                                                                                                                                                                                                                                                                                                                          Pfam; PF00026; asp; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         57
74
128
382 AA;
                                                                                                                                                                                                                                                                                                                         P00794; 4CMS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Zymogen.
SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACT_SITE
SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DISULPID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DISULPID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ouery Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ocal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CHAIN
                                                                                                                                                                                                                                                                                                                         Heep.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 datches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ô
   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   용
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
```

ë

m

179

MKWLVLLGLVALSECIVILPLKKMKTLRETEREKNLLNNFLEBQAYRLSK---NDSKITI 57

```
entities requires a license agreement (See http://www.ish-sib.ch/announce/or send an email to license(ish-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -!- SIMILARITY: BELONGS TO PEPTIDASE FAMILY AL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -i- TISSUE SPECIFICITY: EXPRESSED THROUGHOUT THE CHORION, WITH THE STORAL LOCALIZED EXCLUSIVEIN OVER THE TROUGHESTODERM.
-: SIGNAL LOCALIZED EXCRESSION WAS DETECTED AT DAY 15, COINCIDING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           the European Bioinformatics Institute. There are no restrictions on use by non-profit institutions as long as its content is inn modified and this statement is not removed. Usage by and for commer-
                                                                    58 HPERNYLDTAXVGNITIGTPPQEFRVYFDTGSANLAVPCITCTSPACYTHKTFNPQNSSS 117
                                                                                                                                                                                                      180 PNISFSGAIPIFDNLKNOGAISEPVFAFYLSKNKQEGSVVMFGGVDHQYYKGELNWIPLI 239
                                                                                                                                                                                                                                                                                                                                         EAGEWRVHMDRISMKRTVIACSDGGEALVHTGTSHIBGPGRLVNNIHRLIRTRPFDSKHY 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           300 VSCFATKYLPSITFIINGIKYPMTARAYIFKDSRGRCYSAFKENTVRTSRETWILGDAFL 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HPLRNIMNLVYVGNITIGTPPOEFOVVFDTGSSDLWVPSF-CTMPACSAPVWFROLOSST
                                                                                                                                                                    POPTNKTFT ITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGLEGRNYDGVLGLNY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Chordata; Craniata; Vertebrata; Euteleostomi;
Cetartiodactyla; Suina; Suidae; Sus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WITH THE BEGINNING OF IMPLANTATION, AND CONTINUED THROUGHOUT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Szafranska B., Xie S., Green J., Roberts R.N.;
Procting preparancy associated glycoproteins: new members of the
separtic proteinses gene family expressed in trophectoderm.";
8101. Reprod. 53:21-28(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Szafranska B., Xie S., Miura R., Roberts R.M.;
Submitted (OCT-1995) to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-NOV-1997 (Rel. 35, Created)
01-NOV-1997 (Rel. 35, Last Sequence update)
15-UNH-2002 (Rel. 41, Last annotation update)
Pregnancy-associated glycoprotein 2 precursor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -!- SUBCELLULAR LOCATION: Extracellular.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
MEDLINE-95399486; PubMed=7669851;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     U41421; AAA92055.1; JOINED.
U41422; AAA92055.1; JOINED.
U39199; AAA92055.1; JOINED.
U41423; AAA92055.1; JOINED.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RRYFSVFDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1:1111111 | 11111 | 11
357 RQYFSVFDRKNRRIGLAPAV 376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL; U39763; AAA92055.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mammalia: Butheria:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    [2]
SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sus scrofa (Pig).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TISSUE-Placenta;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NCBI_TaxID-9823;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PAG2_PIG
Q29079; Q29017;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GESTATION.
                                                                                                                                                                                                                                                                                                                                                                                                                                         240 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DER PROCESSION OF CONTRACT PROPERTY 
                                  ð
                                                                                                8
                                                                                                                                                                    à
                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           This SMISS-FORT metry is copyright. It is produced through a collaboration between the SMISS institute of Bioinformatics and the DBEC outstation. The European inolinformatics institute the Rese are no restrictions on its wolf for more profit institutions as long as its content. Is in no way mentitate returns a license agreement (when you way to work the subject of research and the Content of SMISS of SMIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  11 PROPERTY OF THE STATEMENT OF THE PROJECTION HOST OF THE PROPERTY OF THE PROJECTION HOST 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Hydrolase; Aspartyl protease; Glycoprotein; Signal; Multigene family;
                                                                                                                                                                                                                    Pregnancy-associated glycoprotein 2 precursor (EC 3.4.23.-) (PAG 2).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5; Gaps
                                                                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Butheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           B SHILARIY
BY SHMILARIY
BY SHMILARIY
H-LINKED (GLCHAC. ...) (POTENTIAL).
N-LINKED (GLCHAC. ...) (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACTIVATION PEPTIDE (POTENTIAL).
PREGNANCY-ASSOCIATED GLYCOPROTEIN 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (POTENTIAL).
(POTENTIAL).
(POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 1; Length 376;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Xie S., Low B.C., Nagel R.J., Beckers J.-F., Roberts R.M.;
"A movel glycoprotein of the aspartic proteinase gene family
expressed in bovine placental trophectoderm.";
Blob. Reprod. 51.1145-1153(1994)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     99; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  OB68A5B1R232ER60 CRC64:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -i - SIMILARITY: BELONGS TO PEPTIDASE FAMILY A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           N-LINKED (GLCNAC.
N-LINKED (GLCNAC.
N-LINKED (GLCNAC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pred. No. 2,9e-85
                                                                                                                                                             Last sequence update)
                                                                    376 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                57.2%; Score 1148.5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     50; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       InterPro; IPR001461; AspproteaseAl.
InterPro; IPR001969; Aspprotease_site.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       POTENTIAL
                                                                    PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PROSITE; PS00141; ASP_PROTEASE; 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE-95195025; PubMed-7534122;
                                                                                                                                  Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           41907 MM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL; L06151; AAA65822.1; -. HSSP; P00794; 4CMS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  59.58;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                    STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRINTS: PRO0792: PEPSIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                15
376
376
267
262
333
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           52
                                                                                                                                                                                                                                                                                                                                                                                                      Sovidae; Bovinae; Bos.
                                                                                                                           11-NOV-1997 (Rel. 35,
                                                                                                                                                             01-NOV-1997 (Rel. 35,
15-JUN-2002 (Rel. 41,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pfam: PF00026; asp;
                                                                                                                                                                                                                                                                                                      Bos taurus (Bovine).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           376 AA:
                                                                                                                                                                                                                                                                                                                                                                                                                                         CBI_TaxID=9913;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TISSUE-Placenta;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEROPS; A01.971;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                258
                                                             PAG2_BOVIN
Q28057;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     226;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Zymogen.
SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACT SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DISULPID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEGUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PROPER
                                  PAG2 BOVIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
RESULT 3
```

EMBL; EMBL;

MKWIVLLGLVAPSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGSNLTI 60

à

THE HALL THE STEER THE THE THEFT

(EC 3.4.23.-) (PAG 2)

420 AA

```
This STRES FORW metry is copyright. It is produced through a collaboration between the Suss institute of Bioinformatics and the BBML obtachation the Burposen bioinformatics institute. There are no restrictions on its backers and printing matthicities when we along a first contain it in no other many products and the superior an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PROSITE; PS00141; ASP_PROTEASE; 2.
Hydrolase; Aspartyl protease; Glycoprotein; Signal; Multigene family;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         58 LTIHPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLWVPS-FCTMPACSAPVWFRQLQ 116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61 VAFEPWRNYLDIAYMGIISVGFPPQEFQVIFDTGSADLWVPSIYCSSPACSNHNTFNPLR 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               17 SSTFQPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYG--LEGRNYDGV 174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121 SSTFVASGQPIKLIYGTGKMSGFVGYDTIKISSLVDRNQAFGLSVEEPDKILELATFDGI 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     175 LGLNYPNISFSGAIPIFDNLKNQGAISEPVFAFYLSKNKQEGSVVMFGGVDHQYYKGELN 234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181 IGLSYPSLSVKGVTPVFDNLWNQGLLSQKLFAFYLSRKGKKGSVVMFGGVDPSYYTGELH 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           235 WIPLIEAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTRPF 294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        241 WVPVSKPLYWQISMDSISINGKVIACDGGCQAIVDTGTSLLLGPQDAVLNIQEIIQARRS 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                295 DS-KHYVSCFATKYLPSITFIINGIKYPMTARAYIFKDSR-GRCYSAFKEN-TVRTSRET 351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301 TSGEYFIDCDAVNTLPDILFTIDGIGYPVPANAYIQKDAALGICFSSFEGNEDISNNSEE 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 MKWIVLLGLVAFSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQ---ISFRGSN 57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 MKWEGVIGLYTISECLYTIPLYKIKSLRENLREKDMLKEYLEKYPFRLTHKLLHKHADSG 60

    -!- TISSUE SPECIFICITY: TROPHOBLAST AND PLACENTAL TISSUE.
    -!- SIMILARITY: BELONGS TO PEPTIDASE FAMILY A1.

                                                 Green J., Xie S., Gan X., Roberts R.M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                     InterPro; IPR001461; AspproteaseA1.
InterPro; IPR001969; Aspprotease_site.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      352 WILGDAFLRRYFSVFDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             361 WILGDVFLRLYFTVFDRENDRIGLATAV 388
                           MEDLINE-98221985; PubMed-9561214;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 42891 MW:
                                                                                                                                                                                                                                                                                                                                                                                  EMBL; L38511; AAC14885.1; -. HSSP; P20142; 1AVF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     al Similarity 50.5
196; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRINTS; PR00792; PEPSIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pfam; PF00026; asp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 388 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                   MEROPS: A01.051:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TISSUE-Placenta;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Zymogen.
SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACT_SITE
ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DISULPID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PROPER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           datches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 6
    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             56 SNLTIHPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLAVPS-FCTMPACSAPVWFRQ 114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61 QKFSYQPLRNYLDMVYVGNISIGTPPQQPSVVFDTGSSDLWVPSIYCKSKACVTHRSFNP 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       115 LQSSTFQPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYG--LEGRNYD 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121 SHSSTFHDRGKSIKLEYGSGKMSGFLGODTVRIGOLISTGOAFGLSKEBTGKAFEHAIFD 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             173 GVLGLNYPNISFSGAIPIFDNLKNQGAISEPVFAFTLSKNKQEGSVVMFGGVDHQYYKGE 232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241 LKWVPLTQTSYWQIALDRITCRGRVIGCPRGCQAIVDTGTSMLHGPSKAVAKIHSLIKHF 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         291 ------TRPEDSKHYVSCFATKYLPSITEIINGIKYP 321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      301 EKEYVVPCNARKALPDIVFTINNVDYPVPAQATIRKTVVPCNARKALPDIVFTINNVDYP 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              322 MTARATIFKD-SRGRCYSAFKE--NTVRTSRETWILGDAFLRRYFSVFDRGNDRIGLARA 378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         361 VPAQAYIRKNANNNRCYSTFEDIMDTL-NQREIWILGDVFLRLYFTVYDSGONRIGLAQA 419
                                                                                                                                                                                                                             Hydrolase; Aspartyl protease; Glycoprotein; Signal; Multigene family;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 MKWIVLIGLVAFSECIVKIPLROVKTMRKTLSGKNMLKNFLKEHPYR----LSOISFRG 55
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 MKWLVILGLVALSDCLVMIPLTKVKSVRESLREKGLLKNFLKEHPYNMIQNELSKNSSHV 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181 GILGLAYPSIAIKGTTTVIDNLKKODQISEPVFAFTLSSDKEEGSVVMFGGVDKKYKGD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LNWIPLIEAGEWRVHWDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIR--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Chordata; Craniata; Vertebrata; Buteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                     N-LINKED (GLCNAC. ..) (POTENTIAL)
N-LINKED (GLCNAC. ..) (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pregnancy-associated glycoprotein precursor (EC 3.4.23.-) (PAG)
                                                                                                                                                                                                                                                                                            ACTIVATION PEPTIDE (POTENTIAL).
PREGNANCY-ASSOCIATED GLYCOPROTEIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               43;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 1; Length 420;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               57; Mismatches 110; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    094153B6C1B1PCDB CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mammalia; Eutheria, Perissodactyla; Equidae; Equus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        No. 4.2e-76;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-NOV-1997 (Rel. 35, Created)
01-NOV-1997 (Rel. 35, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MISSING (IN REF.
                                                                                                                                                                                                                                                                                                                                         BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        388 AA
                                                                                                                                                                                                                                                                                                                                                                                                                               BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 1035.5;
                                                                                                                                       InterPro; IPR001969; Aspprotease_site.
                                                                                                                                                                                                                                                                          POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRT:
                                                                                                            InterPro; IPR001461; AspproteaseAl
                                                                                                                                                                                PRINTS; PR00792; PEPSIN.
PROSITE; PS00141; ASP_PROTEASE; 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pred
EMBL: U41424; AAA92055.1; JOINED.
EMBL: U39762; AAA92055.1; JOINED.
EMBL: L34361; AAA81531.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         47132 MW:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  51.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STANDARD:
                                                                                                                                                                                                                                                                          15
420
94
277
272
272
376
56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Equus caballus (Horse).
                                                                                                                                                             fam; PF00026; asp; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    420 AA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                     MEROPS; A01.971;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID-9796;
                                                                                                                                                                                                                                                                                                                                                           277
                                                                                                                                                                                                                                                                                                                                                                                                                                                 335
                                                                                                                                                                                                                                                                                                                                         94
                                                                   P00797;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          210:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PAG_HORSE
                                                                                                                                                                                                                                                        Zymogen.
SIGNAL
                                                                                                                                                                                                                                                                                                                                                           ACT_SITE
DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CARBOHYD
                                                                                                                                                                                                                                                                                                                                         ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                        DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                          CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                PROPER
                                                                                                                                                                                                                                                                                                                  CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PAG.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RANGOOGRAFIA
    *****************
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
```

Gaps

6

72; Mismatches 111; Indels 37876CC59FB612C5 CRC64; 4.4e-73; N-LINKED (GLCNAC. BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.

Š

Pred.

PEPF_RABIT

49.78; 50.58;

Score 997.5; DB 1; Length 388;

.) (POTENTIAL).

PREGNANCY - ASSOCIATED GLYCOPROTEIN

ACTIVATION PEPTIDE (POTENTIAL)

POTENTIAL.

P27823

```
with saffs; export entry is opergight. It is produced though a collaboration between the Swiss institute of Bioinformatics and the Pompl, outstation the baropeen a bioinformatic shattute. There are no extrictions on its use by non-profit institutions as long as its content will in no way modified and this extense is not resooned loage by and for consencial entities equives a license agreement (see http://www.isb-sib.o/Announce).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SIGNAL LOCALIZED EXCLUSIVELY OVER THE TROPHECTODERM.
DEVELOPMENTAL STAGE: EXPRESSION WAS DETECTED AT DAY 15, COINCIDING
                                                                                                                                             181 LGLSYPSLSFEGITPVFDNLMAQGLISONLFAFYLSSKEERGSMLMLGGVDPSYYSGDLH 240
LGLNYPNISFSGAIPIFDNLKNQGAISEPVFAFYLSKNKQEGSVVMFGGVDHQYYKGELN 234
                                                                                                                                                                                                                                             235 WIPLIEAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIBGPGRLVNNIHRLIRTRPF 294
                                                                                                                                                                                                                                                                                                                241 WVPVSRPLYWOLAVDRISMNGEAIGCDSGCQGIVDTGTSLLIGPRDPVLNIQKIINAQHS 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301 HGGEYIIDCDTISTLPDIIFTIDGVDYPVPASAYIRKSSVHGCYSNFDESAAHESEPYEV 360
                                                                                                                                                                                                                                                                                                                                                                                          295 DSKHY-VSCFATKYLPSITFIINGIKYPMTARAYIFKDSRGRCYSAFKENTVRTSR--ET 351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Hydrolase; Aspartyl protease; Glycoprotein; Signal; Multigene family;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      regnancy-associated glycoprotein 1 precursor (EC 3.4.23.-) (PAG 1)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -i- SUBCELLULAR LOCATION: EXTRACELLULAR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PREGNANCY-ASSOCIATED GLYCOPROTEIN 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Bukaryota; Metázoa; Chordata; Cranlata; Vertebrata; Buteleostomi;
Mammalla; Butherla; Cetartiodactyla; Suina; Suidae; Sus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WITH THE BEGINNING OF IMPLANTATION, AND CONTINUED THROUGHOUT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDILARS-199446E, NAMES-10568E, NOBERTE R.M.;
Seaffranka B., Alte S., Green J., Roberte R.M.;
Porcine prepanory seasolitated superporteian now members of the
smartte profesiones gene family expressed in trophectoderm.*;
BIOL: Report 513:12-15(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACTIVATION PEPTIDE (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -!- SIMILARITY: BELONGS TO PEPTIDASE FAMILY AL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           35, Last sequence update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   389 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BY SIMILARITY.
BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                or send an email to license@isb-sib.ch)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          InterPro; IPR001461; AspproteaseAl.
InterPro; IPR001969; Aspprotease_site.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       352 WILGDAFLRRYFSVFDRGNDRIGLARAY 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          361 WVLGDVPLRLYPTVPDRANNRIGLAPAV 388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PROSITE: PS00141; ASP_PROTEASE; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-NOV-1997 (Rel. 35, Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; L34360; AAA81530.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRINTS: PRO0792: PEPSIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 389
94
277
112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pfam; PF00026; asp; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-NOV-1997 (Rel. 35,
15-JUN-2002 (Rel. 41,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2REN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sus scrofa (Pig).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID-9823;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEROPS; A01.971;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1
16
3
277
107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               P00797;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CHAIN
ACT_SITE
ACT_SITE
DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PAG1_PIG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ymogen.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 029078:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PROPER
                                                                                                       à
                                                                                                                                                                   g
                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                윱
                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                             윤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Nis SNISS-STORT metry is copyright. It is produced though a collaboration between the Sniss institute of institutionstics and the DBML obstration between the Sniss institute of institutions as in the content factor of the soft of the state operator is the content factor of the state of the 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ŝ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HORMONES AND RELATED SUBSTANCES.
-- SIMILARIT: BELONGS TO PREPIDASE FAMILY AL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The structure of the st
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MISCELLANEOUS: THE EXPRESSION OF PEPSINGGEN GENES IS REGULATED BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   58 LTIHPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLWVPS-FCTMPACSAPVWFRQLQ 116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61 VSFEPLRNYLDLAYIGIISIGTPPQEFKVVLDTGSADLAVPSIYCSSPACGKHNTFNPLL 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                117 SSTPQPTNKTFTLTYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYG--LEGRNYDGV 174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 MKWIVLLGLVAPSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISPRGS---N 57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 MKWLGLLGLVALSECLVTIPLMKVKSMRENLRENDILLDYLEKHPYRPTYKLLSGQQDPD 60
                                                                                                                                                                                                orýctolagús cunicúlus (Rabbit).
Rokaryota: Metazoa: Chordata: Craniata: Vertebrata: Buteleostomi;
Memmalis: Buiberia: Lagomorpha: Leporidae: Oryctolagus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Rageyama T., Tenabe K., Koiwai O.;
Structure and development of rabbit pepsinogens. Stage-specific
Symogens, nucleotide sequences of CDNAs, molecular evolution, and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 1; Length 388;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Hydrolase; Aspartyl protease; Digestion; Symogen; Signal;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            124: Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        24792BE393594B3A CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACTIVATION PEPTIDE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pred. No. 2.4e-70:
                                                           01-A0G-1992 (Rel. 23, Created)
01-A0G-1992 (Rel. 23, Last sequence update)
19-UNK-2002 (Rel. 4), Last ennotation update)
Pepsin F precursor (Ec 3.4.23.1).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SIMILARITY.
SIMILARITY.
SIMILARITY.
388 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61: Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 963.5:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  InterPro; IPR001461; AspproteaseAl.
InterPro; IPR001969; Aspprotease_site.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PEPSIN F.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PROSITE; PS00141; ASP_PROTEASE; 2.
                                                                                                                                                                                                                                                                                                                                                                                                                4EDLINE-91009127; PubMed-2129536;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        42786 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  50.08;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SMBL; M59238; AAA31440.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches 194; Conservative
STANDARD:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pfam; PF00026; asp; 1.
PRINTS; PR00792; PEPSIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      15
388
95
95
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PIR; A38302; A38302.
HSSP; P00794; 4CMS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   275
105
266
309
388 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sest Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4EROPS: A01.051:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 fultigene family.
                                                                                                                                                                                                                                                                                                                WCBI_TaxID-9986;
```

ACT_SITE DISULFID ACT_SITE DISULFID DISULPID SEQUENCE Duery Match

g ò

SIGNAL PROPER CHAIN

```
CORANTIC ACTUMENT PRESENTATION CORANTIC ACTUMENT ACTUMENT ACTUMENT ACTUMENT PRESENTATION PRESENTATION OF ACTUMENT ACTUMENT PRESENTATION PROSESSES IN PRODUCTION CORRESSES IN PROPERTY ACTUMENT ACTUMENT AND ACTUMENT AND ACTUMENT AND ACTUMENT ACTUMEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           INVOLVING PHENYLALANINE AND LEGGINE ARE PREFERRED, MANY OTHERS ARE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      293 PEDSKHYVSCFATKYLPSITFIINGIKYPMTARAYIFKDSR-GRCYSAFKENTVRTSR-E 350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 57 -NLTIHPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLWVPS-FCTMPACSAPVWFRQ 114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61 PKISCLRLMNYLDMVYVGNITIGTPPQLESVIFDTASSDLWVPSNQCHSRACVTHRSFNP 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       173 GVLGLNYPNISFSGAIPIFDNLKNQGAISEPVFAFYLSKNKQEGSVVMFGGVDHQYYKGE 232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      29
                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 MKWIVLLGLVAFSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQ-ISFRGS---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MKWLVILGLVALSECLVIIPLTKVKSIRENLREKDLLLNFLKEHPYNMIOKFGLKGSLCS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -i- FUNCTION: SHOWS PARTICULARLY BROAD SPECIFICITY; ALTHOUGH BONDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   115 LOSSTFQPTNKTFTTTYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVE--YGLEGRNYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121 TLSSTFQSSNRTVKLAPHSGLVSGLLGYDTVQIGRFKSENQAFGLSQSEPVKELENAFFD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GVLGLGYPSLAIQGTTPVFDNLRKQGQIPEPVFALYLSTNTKKGSVLMIGGVDNNFFTGN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LNWIPLIEAGEWRYHNDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241 LKWVPLSARNYWQITLDRITWRGVVVGCTRGCQAILDSGSAFLLGPSRQISSIQKIIQAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       301 FIENEYQVRCCARTTLADFIFTINNVOYPVPARAYIRKGSTPRRCYSNFSGGTESLGKEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Accident (Accident Control of Con
BY SIMILARITY.

BY SIMILARITY.

N-LINKED (GICNAC. ..) (POTENTIAL).

N-LINKED (GICNAC. ..) (POTENTIAL).

N-LINKED (GICNAC. ..) (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                            10,
                                                                                                                                                                                                                                                                                                                           Length 389;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Kageyama T., Tanabe K., Koiwai O.;
"Development-dependent expression of isozymogens of monkey
                                                                                                                                                                                                                                                                                                                                                                                                            67; Mismatches 122; Indels
                                                                                                                                                                                                                                 764A1D2C17A3F416 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             pepsinogens and structural differences between them. Sur. J. Blochem. 202:205-215(1991).
                                                                                                                                                                                                                                                                              46.7%; Score 938; DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           388 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A., AND SEQUENCE OF 16-70.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  351 TWILGDAFLRRYFSVFDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               361 TWILGEVELREFFVEDRGONRIGERIAN 389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE-92037645; PubMed-1935977;
                                                                                                                                                                                                                                 WW.
                                                                                                                                                                                                                                 43533
                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Cercopithecinae; Macaca.
                                             345
79
348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TISSUE-Gastric mucosa;
                                                                                                                                                                                                                                 189 AA:
                                                                                                                                                                                                                                                                                                                                                               Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NCBI TaxID-9543;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PEP2_MACFU
P27677;
                                                                                                                                                                                                                                                                                                                                                                                                            datches 190;
                                                                                                                                       CARBOHYD
         DISULFID
                                                                                                   CARBOHYD
                                                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                 SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                        Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PEP2_MACFU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  233
tettts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
```

PTM: BACH PEPSINGEN'IS CONVERTED TO CORRESPONDING PEPSIN AT PH

```
This STANS-STORT entry is copyright. It is produced through a collaboration between the Suss institute of Bioinformatics and the BBE obtastion the Broad soliton institute. There are no restrictions on its institutes of the error of secretificities on its modified and this streament is not record. Bases to be and for commercial entities retrieves a license agreement (see http://www.isb-sib.ch/Annonnow, or send an email to license(sis-sib.ch/Annonnow) or send an email to license(sis-sib.ch/Annonnow).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  180
                                                            MISCELLANEOUS: THE EXPRESSION OF PEPSINGEN GENES IS REGULATED BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            58 --LTIHPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLWVPS-FCTWPACSAPVWFRQ 114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61 TLIDEOPLENYLDMEYFGTIGIGTPAQDFTVIFDTGSSNLWVPSVYCSSLACTNHNRFNP 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         115 LOSSTFOPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYG--LEGRNYD 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      173 GVLGLNYPNISFSGAIPIFDNLKNQGAISEPVFAFYLSKNKQEGSVVMFGGVDHQYYKGE 232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181 GILGLAYPSISSGATPVFDNIMNOGLVSQDLFSVYLSADDQSGSVVIFGGIDSSYYTGS 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       233 LNWIPLIEAGEWRVHMDRISHKRTVIACSDGCEALVHTGTSHIEGFGRLVNNIHRLI-RT 291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241 LNWVPVSVEGYWQISVDSITWNGEAIACAEGCQAIVDTGTSLLTGPTSPIANIQSDIGAS 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    292 RPFDSKHYVSCFATKYLPSITFIINGIKYPWTARAYIFKDSRGRCYSAFKENTVRT-SRE 350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         301 ENSDGEMYVSCSAISSLPDIVFTINGIQYPVPPSAYILQ-SQGSCISGFQGMDVPTESGE 359
2.0 IN PART AS A RESULT OF THE RELEASE OF A 47 AA ACTIVATION SEGMENT AND IN PART AS A RESULT OF STEPHISE PROFEDLYTIC CLEAVAGE VIA AN INTERHEDIATE FORM(S).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 MKWIVLLGLVAFSECIV-KIPLROVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGSN-- 57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 MKWLLLIGLVALSECIIHKVPLVRKKSLRRNLSEHGLLKDFLKKHNFNPASKYFPOAEAP 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RRITWS: PROUTS2 | PEPSIN
PROSITE: PSOULT1. ASE_PROTEASE: 2.
HYGTOLBER ASPETY1 PTOLEASE: Digestion: Zymogen: Multigene family;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121 QDSSTYQSTSGTVSITYGTGSMTGILGYDTVQVGGISDTNQIFGLSETEPGSFLYYAPFD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 388;
                                                                                 HORMONES AND RELATED SUBSTANCES.
-- SMILLARITY: BELONGS TO PEPTIDASE FAMILY A1.
-- CAUTION: IT IS NOT KNOWN IF THIS IS PEP A-2 OR PEP A-3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PHOSPHORYLATION (POTENTIAL)
706F7EDSOFF59C0D CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       69; Mismatches 117;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACTIVATION PEPTIDE.
ACTIVATION PEPTIDE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .3e-67;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PEPSIN A-2/A-3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BY SIMILARITY
BY SIMILARITY
BY SIMILARITY
BY SIMILARITY
BY SIMILARITY
BY SIMILARITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  46.0%; Score 924.5;
49.0%; Pred. No. 3.3
                                                                                                                                                                                                                                                                                                                                                                                                                         InterPro; IPR001461; AspproteaseA1.
InterPro; IPR001969; Aspprotease_site.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  351 TWILGDAFLRRYFSVFDRGNDRIGLA 376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      360 LWILGDVFIRQYFTVFDRANNQVGLA 385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      InterPro; IPR001791; Laminin_G.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          XX.
                                                                                                                                                                                                                                                                                                                            EMBL; X59755; CAA42427.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          41703
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches 189; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Phosphorylation; Signal,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            94
277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           6
                                                                                                                                                                                                                                                                                                                                            PIR; S16064; S16064.
PIR; S19684; S19684.
HSSP; P00790; 1PSN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          asp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          388 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                         MEROPS; A01.001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Pfam; PF00026;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACT_SITE
DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MOD_RES
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DISULPID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PROPER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PROPER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
```

STANDARD:

PEPA_HUMAN P00790;

RESULT 9 PEPA_HUMAN

SEQUENCE FROM N.A. MCBI_Tax1D-9606;

```
modified and this statement is not removed. Usage by and for commercial states requires a license agreement (See http://www.isb-sib.ch/announce/srated an email to licenseelsp-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 L -> F (IN 1SOZNE 5).

FTHE-WAR-006481.

F -> K (IN 1SOZNES 3A, 4 AND 5).

/FTIG-VAR_006482.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Hydrolase, Aspartyl protease, Digestion; Zymogen; Signal;
Phosphorylation; 3D-structure; Polymorphism.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PHOSPHORYLATION (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -> L (IN ISOZYMES 4 AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACTIVATION PEPTIDE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FTIG-VAR_006483.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FIIG-VAR_006485.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FT1d-VAR_006484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FT1d-VAR_006486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           interPro: IPR001461; AspproteaseAl.
InterPro: IPR001959; Aspprotease_site.
InterPro: IPR001791; Laminin_G.
PFam. PP00126; asp: 1.
PRINTS; PR00792; PEPSIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PEPSIN A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     JOINED.
                                                                                                                                                                 JOINED.
JOINED.
                                                                                                                                                                                                                                                                                                                                                JOINED.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           JOINED.
                                                                                                                                                                                                                                                                          JOINED
                                                                                                                                                                                                                                                                                                             JOINED
                                                                                                                                                                                                                                                                                                                                                                                                               JOINED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      JOINED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  JOINED
                                                                                                                       BRIEF, 100279, RAMSES20, I.D. SERIE, 100279, RAMSES20, I.D. SERIE, 100282, I.D. SERIE, 100282, I.D. SERIE, 100282, I.D. SERIE, 100282, RAMSES20, I.D. SERIE, 100282, RAMSES20, I.D. SERIE, 100282, RAMSES20, I.D. SERIE, 100288, RAMSES20, I.D. SERIE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL; M26028; AAA60061.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL; M26029; AAA60061.1;
EMBL; M26030; AAA60061.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 M26031; AAA60061.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  388
130
94
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HGNC:8885; PGA3.
HGNC:8886; PGA4.
HGNC:8887; PGA5.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       28 44
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                58
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PIR; S02663; S02663.
PIR; S02664; S02664.
PDB; IPSN; 20-APR-95.
PDB; IPSO; 20-APR-95.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A22434.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PX0024.
PX0025.
PX0026.
PX0027.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A30142; A30142.
B30142; B30142.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A01.001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  130
130
277
268
268
311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               - 1007631 ; MIM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A00980,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A22434;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PIR; PX0024;
PIR; PX0025;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PIR; PX0026;
PIR; PX0027;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            169730;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MIM: 169710;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               169720;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MOD_RES
ACT_SITE
ACT_SITE
DISULFID
DISULFID
DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEROPS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VARIANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VARIANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      'ARIANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VARIANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /AR1ANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VARIANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VARIANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Genew;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PROPER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Senew:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PIR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PIR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PIR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MIM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MIX;
Followed No. Companies No. Transcoom No. Companies S.C.,
A mens M. AC., Chernia N. M. Transcoom No. I., Montana S.C.,
A mens M. AC., Chernia N. M. Transcoom No. Chernia N. Cher
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           This SRISS-PROT entry is copyright. It is produced through a collaboration between the Swiss institute of Bioinformatics and the BMBL outstation the Burgers Bioinformatics institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sogawa K., Fujii-Kuriyama Y., Mizukami Y., Ichihara Y., Takahashi K.;
Porgawa Kructure of human pepalnogen gene.";
J. Biol. Chem. 298:5306-5311(1983).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Evers M.P.J., Zelle B., Bebelman J.P., van Beusechem V., Kraakman L.,
Hoffer M.J.V., Pronk J.C., Mager W.H., Planta R.J., Eriksson A.W.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Athauda S.B.P., Tanji M., Kogeyama T., Takahashi K.;
A. comparative study on the MH2-terminal maino acid sequences and
some other properties of six isosymic forms of human pepsinogens and
pepsins.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PROFILE SUGREGOR 01-1-28.

**REDARDA SUGREGOR 01-1-28.

**REDARDA 
                                                                                                                                                                                                                                                                                                                                                                            Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalla; Butherla; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "Nucleotide sequence comparison of five human pepsinogen A (PGA) genes: evolution of the PGA multigene family.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE OF 16-100 (ISOZYMES 2; 3; 3A; 4 AND 5).
                                                                                                                                                          21-UT-1986 (Rel. Or. Created)
21-UT-1986 (Rel. Or. Last sequence update)
13-UT-1986 (Rel. OI. Last sequence update)
15-UTN-2002 (Rel. 14) Last annotation update)
Pepsla Na Precursor (Rc. 3.4.23.1).
Remanna aspleas (Haman).
                                                                                                  388 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               X-RAY CRYSTALLOGRAPHY (2.2 ANGSTROMS). MEDLINE-95392399; Pubmed-7663352;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE OF 16-68 (ISOZYMES 3 AND 5).
MEDLINE-89065108; PubMed-3197840;
                                                                                                  PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Activation of human pepsinogens.";
FEBS Lett. 241:69-72(1988).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4EDL1NE-83161158; PubMed-6300126;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE-90130402; PubMed-2515193;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4EDL1NE-89233110; PubMed=2714789;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A. (1SOZYME 5).
TISSUE-Placenta;
```

Senomics 4:232-239(1989).

Frants R.R.;

Biochem. 106:920-927(1989).

Poltmann B.;

'FT1d-VAR 006487

```
Matches 187; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STANDARD:
                                                                                                                                                                                                                     15
61
129
129
93
276
                                                                                                                                                     Pfam: PF00026; asp; 1.
                                                                                                                                                                                                                                                                                                                 267 2
310 3
                                                                                                 1PSN.
                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity
                                                                                                                                                                                                       Phosphorylation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MACFU
                                                                                                                                                                                                                                                                          SITE
                                                                                                                                                                                                                                                            MOD_RES
                                                                                                                                                                                                                                                                                                      DISULFID
                                                                                                                                                                                                                                                                                                                    DISULFID
                                                                                                                                                                                                                                                                                                                                             SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                        ACT SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      P03954;
                                                                                                                                                                                                                                   PROPEP
                                                                                                                                                                                                                     SIGNAL
                                                                                                                                                                                                                                                 CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PEP1_MACPU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PEP1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PGA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 11
  STATISTICATED BY BEEN SOUTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                      q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COCCOSCIONA
                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                This SWISS-PROT entry is copyright. It is produced through a collaboration between the SWBL outstation -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        also classed is some actions.

COMMATTIC ACTIVITY: Preferential cleavage: hydrophobic, preferebly account. crasiduse in Pt and Pt propictions. Cleavages 1 Phet-1 val-2, excent-1815-5, 13-CHu-1-Ma-34, 14-Akai-1-Lea-15, 13-Chu-1-Tyr-16, 15-Chu-1-Lea-17, 13-Chu-1-Tyr-16, 15-Chu-1-Lea-17, 13-Chu-1-Tyr-16, 17-75 bonds in the B (plain of Health).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FUNCTION: Shows particularly broad specificity; although bonds involving phenylalanine and leucine are preferred, many others are
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          pepsinogens A and C, and prochymosins. Purification,
                                                                                                                                                     61 TLVDEQPLENYLDMEYFGTIGIGTPAQDFTVVFDTGSSNLAWPSVYCSSLACTNHNRPN 120
                                                                                                                                                                                          115 LQSSTFQPTNKTFTTTYGSGSMKGFLAYDTVRIGDLVSTDOPFGLSVVEYG--LEGRNYD 172
                                                                                                                                                                                                          173 GVLGLNYPNISPSGAIPIFDNLKNOGAISEPVFAFYLSKNKOEGSVVMFGGVDHOYYKGE 232
                                                                                                                                                                                                                                                                       181 GILGLAYPSISSSGATPVFDNIWNQGLVSQDLFSVYLSADDQSGSVVIFGGIDSSYYTGS 240
                                                                                                                                                                                                                                                                                                                                                           292 RPFDSKHYVSCFATKYLPSITFIINGIKYPMTARAYIFKDSRGRCYSAFKENTVRT-SRE 350
                                                                                                                                                                                                                                                                                                                                                                              ENSDGDWAYSCSAISSLPDIVFTINGVQYPVPPSAYILQ-SEGSCISGFQGWILPTESGE 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        characterization of enzymatic properties, cDNA cloning, and molecular
                                                                                                                                     NLT-IHPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLAVPS-FCTMPACSAPVWFRO 114
                                                                                                                                                                                                                                                                                                   23 LWHIPLIEAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLI-RT 291
                                                       Gaps
                                                                                1 MKWIVLLGLVAFSECIV-KIPLRQVKTMRKTLSGKNMLKNPLKEH---PYRLSQLSFRGS 56
                                                                                                         1 MKWLLLIGLVALSECIMYKVPLIRKKSLRRTLSERGLLKDFLKKHNLNPARKYFPQWEAP 60
                                                                                                                                                                                                                                                                                                                               241 LNWVPVTVEGYWOITVDSITMNGBALACAEGCQAIVDTGTSLLTGFTSPIANIQSDIGAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalla, Butheria, Primates, Platyrrhini, Callitrichidae;
                                                       11
                           Score 923.5; DB 1; Length 388;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A., SEQUENCE OF 16-25, FUNCTION, AND ENZYME
                                         : Pred. No. 4e-57;
67; Mismatches 117; Indels
C9CB89BA08F4D78B CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STATE SECULATION: Inhibited by peptatin. MISCELLANDUS: The optimal pH is around 2. SIMILARITY: BELONGS TO PEPTIDASE FAMILY AL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  16-0CT-2001 (Rel. 40, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Pepsin A precursor (EC 3.4.23.1).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           387 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (Common marmoset).
                                                                                                                                                                                                                                                                                                                                                                                                               351 TWILGDAFLRRYFSVFDRGNDRIGLA 376
                                                                                                                                                                                                                                                                                                                                                                                                                             360 LMILGDVFIRQYFTVFDRANNQVGLA 385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (EDLINE-20250834; PubMed-10788784;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .6-OCT-2001 (Rel. 40, Created)
41977 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Biochem. 127:761-770(2000).
                           46.0%;
                                                    Matches 191; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TISSUE-Gastric mucosa;
388 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Callithrix jacchus
                                      Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New World monkey
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NCBI_TaxID-9483;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PEPA_CALJA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Callithrix.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REGULATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        evolution.
SEQUENCE
                           Duery Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         09N2D4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 10
8
                                                                                ò
                                                                                                            g
                                                                                                                                                              q
                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                            용
                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                        ą
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ð
                                                                                                                                                                                       à
                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                   ô
                                                                                                                                                                                                                                                                                                                                                           à
```

```
e are no restrictions on its
s its content is in no way
Usage by and for commercial
                                                                                           entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
the European Bioinformatics Institute. There are no restrictions on use by non-profit institutions as long as its content is in no modified and this statement is not removed. Usage by and for commen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 60 I---HPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLWVPS-FCTWPACSAPVWFRQL 115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61 MIANOPLVNYLDMEYFGTIGIGTPAQEFTVIFDTGSSNLMVPSIYCSSPACTNHNRFNPQ 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      116 QSSTFQPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYG--LEGRNYDG 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121 ESSTYQATSQTLSIAYGTGSMTGILGYDTVQVGGIADTNQIFGLSETEPGSFLYYSPFDG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           174 VLGLNYPNISPSGAIPIFDNLKNGGAISEPVFAFYLSKNKQEGSVVMFGGVDHQYYKGEL 233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181 ILGLAYPSISSSGATPVFDNIWNQDLVSQDLFSVYLSSNDQSGSVVWFGGIDSSYYTGSL 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                234 NWIPLIEAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIBGPGRLVNNIHRLI-RTR 292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241 NWVPVSAEGYWQITVDSITMNGEAIACAEGCQAIVDTGTSLLSGPTSPIANIOSYIGASE 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     293 PFDSKHYVSCFATKYLPSITFIINGIKYPMTARALIFKDSRGRCYSAFKENTVRTS-RET 351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      301 NSNGEMVYSCSAISSLPDIVFTINGIQYPVPASAYILQD-EGGCTSGFQGMNIPTAYGEL 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 MKWIVLIGLVAFSECIVKIPLROVKTMRKTLSGKNMLKNFLKEHPYRLSQISF-RGSNLT 59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 MKWILLISIVALSECLYKYSLIKKKSLRKNLIEHGLKDFLKNWTLDPASKYFPOGEAAT 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mocace fiscate fiscate (Japanese maceque)

Secretario de la fiscate fiscate (Japanese maceque)

Sommalia : Dutheria y Primates; Catarrhini; Cercopithecidae;

Gercopthocines, Mocaca.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACTIVATION PEPTIDE (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PHOSPHORYLATION (BY SIMILARITY).
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 1; Length 387;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      68; Mismatches 120; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Hydrolase; Aspartyl protease; Digestion; Zymogen; Signal;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 7A7968AA568464BD CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       23-007-1986 (Rel. 02, Created)
01-MG-1992 (Rel. 23, Last sequence update)
15-UN-2002 (Rel. 4), Last amotation update)
Pepsin A-1 precursor (EC 3.4.23.1) (Pepsin III-3).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        388 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 920;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pred. No.
                                                                                                                                                                                                                                                                          MEROPS; A01.001; -.
InterPro; IPR001461; AspproteaseA1.
InterPro; IPR001969; Aspprotease_site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          352 WILGDAFLRRYFSVFDRGNDRIGLA 376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    360 WILGDVFIRQYFAVFDRANNQVGLA 384
                                                                                                                                                                                                                                                                                                                                                                                                               PRINTS; PR00792; PEPSIN.
PROSITE; PS00141; ASP_PROTEASE;
                                                                                                                                                                                                           EMBL: AB038384: BAA90871.1: -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 41563 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       45.88;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          48.6%;
```

This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation and for commercial -- SIMILARITY: BELONGS TO PEPTIDASE FAMILY A1. CAPALVIC ACTIVITY: Preferential cleavage: Ndrophobic, preferably amentic, residues in Pi and Pi positions. Chaeva : Phel-Val-Z, 4-Ghi-His-S, 13-Ghi-Hal-M, A.A.A.-Heal-M, 15-Heal-Lis-B, 13-Ghi-His-S, 13-Ghi-His-S, 13-Ghi-His-S, 13-Ghi-His-S, 13-Ghi-His-S, 14-Rhe-H-Rhe-23 and 25-Rhe-H-TyY-16. TyY-26 bonds in the B chain of insulin. SUBMITTED (SEP-1989) TO THE REMULÇACIONEDAN CONTROL GALADASE INTROOCH BONDS
-I FUNCTION: SHOWS PARTICULARLY BROAD SPECIFICITY, ALTHOUGH BONDS
-I MODIVAN GHERIVALANINE AND LEXCLINE ARE PREFERRED, MANY OFHERS ARE
ALGO CLEANUED FOR SOME EXTENT. the Buropean Bioinformatics Institute. There are no restrictions on use by non-profit institutions as long as its content is in no modified and this statement is not removed. Usage by and for commendatived and this statement is not removed. 58 --LTIHPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLWVPS-FCTMPACSAPVWFR0 114 51 TLIDEOPLENYLDVEYFGTIGIGTPAQDFTVIFDTGSSNLWVPSVYCSSLACTNHNLFNP 120 115 LOSSTFQPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYG--LEGRNYD 172 121 QDSSTYQSTSGTLSITYGTGSMTGILGYDTVQVGGISDTNQIFGLSETEPGSFLYYAPFD 180 173 GVLGLNYPNISFSGAIPIFDNLKNOGAISEPVFAFYLSKNKOEGSVVMFGGVDHOYYKGE 232 181 GILGLAYPSISSSGATPVFDNIWDQGLVSQDLFSVYLSADDQSGSVVIFGGIDSSYYTGS 240 241 LNWVPVSVEGYWQISVDSITMNGEAIACABGCQAIVDTGTSLLTGPTSPIANIQSDIGAS 300 292 RPFDSKHYVSCFATKYLPSITFIINGIKYPMTARAYIFKDSRGRCYSAFKENTVRT-SRE 350 301 ENSDGEMYVSCSAISSLPDIVFTINGIQYPVPPSAYILQ-SQCSCTSGFQGMDYPTESGE 359 1 NKWLLLGLVALSECIIYKVPLVRKKSLRRNLSEHGLLKDFLKKHNLNPASKYFPQABAP 60 Gaps 1 MKWIVLLGLVAFSECIV-KIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGSN-- 57 233 LNWIPLIEAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLI-RT Mocaca mulatta (Rhesus macaque). Makaryota, Nefazo, Chordata, Craniata, Vertebrata, Euteleostomi, Mommalia, Butheria Primates, Gatarrhini, Gercoptinecidae; SIGNERNE PROM N.A. WIDLAGE-1900796, P. Pronk J.C., Mager W.H., Peres M. P.J., Zelle B. Bedelman J.P., Pronk J.C., Mager W.H., Prents M. P., T. Zelsson A. W. Frants R. R.; pepsinogen A. CDNA."; Cloning and sequencing of Y. Frants R. R.; pepsinogen A. CDNA."; Length 388; Indels DB 1; Pred. No. 1.8e-66; Last sequence update) Last annotation update) 388 AA 69; Mismatches 45.6%; Score 915.5; 48.7%; Pred. No. 1.8 351 TWILGDAFLRRYFSVFDRGNDRIGLA 376 360 LWILGDVFIRQYFTVFDRANNQVGLA 385 PRT: Pepsin A precursor (EC 3.4.23.1) 01-0CT-1989 (Rel. 12, Created) 01-0CT-1989 (Rel. 12, Last sequ 15-JUN-2002 (Rel. 41, Last anno Conservative STANDARD; Cercopithecinae; Macaca. NCBI_TaxID=9544; Gene 65:179-185(1988) Similarity 188; PEPA_MACMU Zelle B.; Query Match REVISION P11489; RESULT 12 PEPA_MACMU Matches ô g ò ò q ò a ò a ö This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the Beal outstation - the European Bioinformatics institute. There are no restrictions on its the European Bioinformatics Institute. There are no restrictions on the use by non-profit institutions as long as its content as in no way and its content as in no way and its activated and this statement is nor removed. entities requires a license agreement (See http://www.isbrsh.ch/announce/ or send an email to license agreement (See http://www.isbrsh.ch/announce/ or send an email to license@iabrshb.ch). 'Trie Complete amino acid sequence of monkey pepsinogen A.";
1. Lol., Chem. 261,4395-4405(1986).
1. FUNETICITIFY: ARREVICIORARY BOAD SPECIFICITIFY: ARREVICIOR BONDS
1. FUNETICITIFY ARREVICIORARY ARE PREPRESED, MARY OFHERS ARE HORNONES AND REALPES INSTRUCTORS.

THE CELLANDOS: EACH PETSTROCER IS CONVERTED TO CORRESPONDING PETSTROCER AND ALTIVATION SEGMENT AND IN NATE AS A RESULT OF THE RELEASE OF A 47 AM ACTIVATION SEGMENT AND IN NATE AS A RESULT OF STEWARS PROPREDITTY CHANGES AND AN INTERPREDITTY ENGINEENT OF STEWARS AND ACTIVATION SEGMENT AND AND ACTIVATION SEGMENT AS A RESULT OF STEWARS AND ACTIVATION SEGMENT AS A RESULT OF STEWARD AND ACTIVATION SEGMENT SEGMENT AND ACTIVATION SEGMENT AND ACTIVATION SEGMENT AND ACTIVATION SEGMENT SEGMENT AND ACTIVATION SEGMENT SEGM AMSO CLEMPON to SOME ENTERTH.
CMAINTIC ACTIVITY: Preferential. Cleavage. hydrophobic, preferebly accoratio, residues in F and P!, positions, Cleavage. 1-Phel-1-Mal-2, 4-Gin-1-His-5, 13-Gin-1-Aha-14, 14-Aha-1-Gan-15, 13-Gin-1-Phy-2, C-Gin-1-His-5, 13-Gin-1-Phel-2, A-Phel-1-Phel-2, A-Phel-2, A MISCELLANEOUS: THE EXPRESSION OF PEPSINOGEN GENES IS REGULATED BY Angagyama T. Takahashi Ke; Khonkey pepsinogens and appsins. IV. The amino acid sequence of the activation peptide aegment of Japanese monkey pepsinogen."; DÉVELOPMENTAL STAGE: PREDOMINANT AT THE JUVENILE & ADULT STAGES Hydrolase; Aspartyl protease; Digestion; Zymogen; Phosphorylation; Kageyama T., Tanabe K., Koiwai O.; Thevelopment-dependent expression of isozymogens of monkey pepsinogens and structural differences between them.": 48C49B0A69FD7516 CRC64; ACTIVATION PEPTIDE. PEPSIN A-1. ACTIVATION PEPTIDE. N -> D (IN REF. 3). PHOSPHORYLATION. SEQUENCE FROM N.A., AND SEQUENCE OF 16-70. InterPro: IPR001969; Asprotease_site. InterPro: IPR001791; Laminin_G. Eur. J. Biochem. 202:205-215(1991). InterPro; IPR001461; AspproteaseAl PRINTS; PR00792; PEPSIN. PROSITE; PS00141; ASP_PROTEASE; 2. MEDLINE-86168132; PubMed-3514596; Kageyama T., Takahashi K.; TISSUE-Gastric mucosa; MEDLINE-92037645; PubMed-1935977; SEQUENCE OF 16-62. MEDLINE=81006790; PubMed=6773933; 41623 MW; EMBL; X59752; CAA42424.1; -. 88:9-16(1980). Multigene family; Signal 62 388 112 272 9 PIR; A00981; PEMOAJ. PIR; S19681; S19681. HSSP; P00790; 1PSN. SEQUENCE OF 41-388. 277 · 130 262 388 AA; NCBI_TaxID-9543; 268 4EROPS; A01.001; Pfam; PF00026; Blochem. DISULFID DISHLFID ACT SITE CONFLICT SEQUENCE RES PROPER SIGNAL PROPER CHAIN

```
INVOLVING PHENYLALANINE AND LEUCINE ARE PREFERRED, MANY OTHERS ARE
                                                                                                                                                                                                                     THE PREDOMINANT 2YMOGENS AT LATE POSTNATAL STAGE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61 SVSTESLENYLDAEYFGTISIGTPPQEFTVIFDTGSSNLAVPSTYCSSLACFLHKRFNPD 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     116 QSSTFQPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGLE--GRNYDG 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121 DSSTFQATSETLSITYGTGSWTGILGYDTVKVGNIEDTWQIFGLSKTEPGITFLVAPFDG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              174 VLGLNYPNISFSGAIPIFDNLKNQGAISEPVFAFYLSKNKQEGSVVMFGGVDHQYYKGEL 233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                234 NWIPLIEAGEWRVHMDRISMKRTVIACSDGGEALVHTGTSHIEGPGRLVNNIHRLI-RTR 292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WWVPVSHEGYWQITHDSITINGEFIACADSCQAVVDTGTSLLAGPTSAISKIQSYIGASK 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   293 PFDSKHYVSCFATKYLPSITFIINGIKYPWTARAYIFKDSRGRCYSAFKENTVRTS-RET 351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  301 NLLGENIISCSAIDSLPDIVFTINNVQYPLPASAYILKED-DDCLSGFDGMNLDTSYGEL 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 MKWLLLLGLLALSECIVHKVPLVRKKSLRKNLIERGLLQDYLKTHTPNLATKYFPKETFA 60
                                                         1 MKWIVLLGLVAFSECIV-KIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISF---RGS
               Kageyama T., Tanabe K., Koiwai O.;

"Structure and development of rabbit pepsinogens. Stage-specific
"Structure and development of rabbit pepsinogens, newlected sequences of cDNNs, molecular evolution, and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 387:
                                                                                                                                                                                                                                                                                                                                                                  PRINTS; PRO0792; PERSIN.
PROSITE: PSO0141, ASP_PROTEASE; 2.
THOCLASE: ASPARTY1 processe; Digestion; Zymogen; Signal;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PHOSPHORYLATION (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        119; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A6EC48F715541A48 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 914; DB 1;
Pred. No. 2.3e-66;
                                                                                                                                                                                                                                                   HORMONES AND RELATED SUBSTANCES.
-!- SIMILARITY: BELONGS TO PEPTIDASE FAMILY AL.
                                                                                                                                                                                                                                                                                                                                                                                                                                             ACTIVATION PEPTIDE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     74; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                            PEPSIN II-1.
                                                                                                                                                                                                                                                                                                                                          InterPro; IPR001969; Aspprotease_site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         352 WILGDAFLRRYFSVFDRGNDRIGLARA 378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       160 WILGDVFIROYFTVFDRANNOVGLAAA 386
                                                                                                                                                                                                                                                                                                                           InterPro; IPR001461; AspproteaseAl
                                                                                                                                                                                                                                                                                                                                                                                                                  Phosphorylation; Multigene family.
   MEDLINE-91009127: PubMed-2129536:
                                                                                                                     ALSO CLEAVED TO SOME EXTENT.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            42070 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          45.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                         asp; 1.
                                                                                                                                                                                                                                                                              HSSP; B38302; B38302.
HSSP; P00791; 1PSA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            187 AA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                             16
60
129
276
276
276
276
276
276
                                                                                                                                                                                                                                                                                                            MEROPS; A01.001;
                                                                                                                                                                                                                                                                                                                                                         Pfam; PF00026;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DISULPID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DISHLFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MOD RES
                                                                                                                                                                                                                                                                                                                                                                                                                                             PROPEP
                                                                                                                                                                                                                                                                                                                                                                                                                                                            CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     datches
   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
entities requires a license agreement (See http://www.isb-sib.ch/announce/
or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TLIDEOFLENYLDVEYFGTIGIGTPAQDFTVIFDTGSSNLAVPSVYCSSLACTHHINEPP 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            115 LØSSTFOPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYG--LEGRNYD 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121 QDSSTYQSTSGTLSITYGTGSMTGILGYDTVQVGGISDTNQIFGLSETEPGSFLYYAPFD 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GVLGLNYPNISFSGAIPIFDNLKNQGAISEPVFAFYLSKNKQEGSVVMFGGVDHQYYKGE 232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181 GILGLAYPSISSSGATPVFDNIWDOGLVSODLFSVYLSADDOSGSVVIPGSIDSSYYTGS 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         241 LNWVPVSVEGYWQISVDSITMNGEAIACAEGCQAIVDTGTSLLTGPTSPIANIQSDIGAS 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       292 RPFDSKHYVSCFATKYLPSITFIINGIXYPWTARAYIFKDSRGRCYSAFKENTVRT-SRE 350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     301 ENSDGEMVVSCSAISSLPDIVFTINGVQYPLPPSAYILQ-SQGSCTSGFQGMDVPTESGE 359
                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   58 --LTIHPLRNIMNLVYVGNITIGTPPQEFQVVFD7GSSDLWVPS-FCTMPACSAPVWFRQ 114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              233 LNWIPLIEAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGFGRLVNNIHRLI-RT 291
                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 MKWIVLIGLVAFSECIV-KIPLROVKTMRKTLSGKNMLKNFLKEHPYRLSGISFRGSN-- 57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus.
                                                                                                                                                                                                                                                                                                                                                                                                               11,
                                                                                                                                                                                                                                                                                                                                                                                 Score 914.5; DB 1; Length 388;
                                                                                                                                                                                                                                                                                                                                                                                                               70; Mismatches 118; Indels
                                                                                                                                                                        PROSITE; PS00141; ASP_PROTEASE; 2.
Hydrolase; Aspartyl protease; Digestion; Zymogen; Signal;
                                                                                                                                                                                                                                                                  PHOSPHORYLATION (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                      97F6E5E3F6C2A793 CRC64;
                                                                                                                                                                                                                                    ACTIVATION PEPTIDE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-DEC-1992 (Rel. 24, Last sequence update)
15-JUN-2002 (Rel. 24, Last sequence update)
15-JUN-2002 (Rel. 41, Last amoration update)
26-SPS-LI II Precursor (E. 3.4.22.1) (Pepsin A).
Oryctolagus cuniculus (Rabbit).
                                                                                                                                                                                                                                                                                                                                                                                                   Pred. No. 2.1e-66;
                                                                                                                                                                                                                                                                                                            BY SIMILARITY.
BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      387 AA
                                                                                                                                                                                                                                                                                                                                          SIMILARITY
                                                                                                InterPro; IPR001461; AspproteaseAl.
InterPro; IPR001969; Aspprotease_site.
InterPro; IPR001791; Laminin_G.
                                                                                                                                                                                                                                                   PEPSIN A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                351 TWILGDAFLRRYFSVFDRGNDRIGLA 376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              360 LWILGDVPIRQYFTVFDRANNQVGLA 385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRT;
                                                                                                                                                                                                                                                                                                                                          BY
                                                                                                                                                                                                                                                                                                                                                      41696 MW;
                                                                                                                                                                                                                                                                                                                                                                                    45.58:
                                          SMBL, M20788; AAA36902.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                   48.46;
                                                                                                                                                                                                                                                                                                                                                                                                               Matches 187; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STANDARD;
                                                                                                                                          Pfam; PF00026; asp; 1.
PRINTS; PR00792; PEPSIN.
                                                                                                                                                                                                                     15
62
388
130
94
277
                                                                        HSSP: P00790; 1PSN.
                                                                                                                                                                                                                                                               130
94
277
107
268
311
388 AA;
                                                                                                                                                                                                                                                                                                                                                                                                   Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CBI_TaxID=9986;
                                                                                    WEROPS: A01.001;
                                                                                                                                                                                                      Phosphorylation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PEP1_RABIT
                                                                                                                                                                                                                                                                              ACT SITE
                                                                                                                                                                                                                                                                                             ACT_SITE
                                                                                                                                                                                                                                                                                                            DISULPID
                                                                                                                                                                                                                                                                                                                           DISULFID
                                                                                                                                                                                                                                                                                                                                          DISULFID
                                                                                                                                                                                                                                                                                                                                                      SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                 PROPER
                                                                                                                                                                                                                                                                  MOD RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     P28712:
                                                                                                                                                                                                                        SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     173
ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         윱
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ô
```

SECUENCE FROM N.A.

Gaps

10

Page 11

```
preferably
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ALSO CLEAVED TO SOME EXTENT.

ALSO CLEAVED TO SOME EXTENT.

ACRIANTIAL CATULTY: Preferential cleavage: hydrophobic, preferably
acometic, residues in Pland Pl. posticloss. Cleaves b. Phel-Vall-2,

ACID-His-5, 13-5GU-HAR-14, 14-Ala-14, 16-H2-15, 15-Leu-I-Tyr-16.
60 -DSVPTETLENYLDTEYFCTIGTCTPAQDFTVIFDTGSSNLWVPSVYCSSAACSVHNQFN 118
                                                                                                                                                                                                                                                                                                                              179 DGILGLAYPSISSSDATPVFDN#WNEGLVSEDLFSVYLSSDDESGSVVMFGGIDSSYYFG 238
                                                                                                                                                                                                                                                                                                                                                                                                  23. ELIMIPLIEAGEWRYHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLI-R 290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SLWWVPVSYEGYWQITLDSITMDGETIACADSCQAIVDTGTSLLAGPTSAISNIQSYIGA 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TRPPDSKHYVSCFATKYLPSITFIINGIKYPHTARAYIFKDSRGRCYSAFKENTVRT-SR 349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SENSDGEMIVSCSSMYSLPNIVFTINGVQYPVPASAYILEED-DACISGFEGMNLDTYTG 357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -i- MISCELLANBOUS: THE EXPRESSION OF PEPSINOGEN GENES IS REGULATED BY
                                                                                                  QLQSSTFQPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYG--LEGRNY 171
                                                                                                                                                                                                                                                  172 DGVLGLNYPNISFSGAIPIFDNLKNOGAISEPVFAFYLSKNKQEGSVVMFGGVDHQYYKG 231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    16-Tyr-|-Leu-17, 23-Gly-|-Phe-24, 24-Phe-|-Phe-25 and 25-Phe-|-
Tyr-26 bonds in the B chain of insulin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -!- DEVELOPMENTAL STAGE: PEPSINOGENS IN GROUP I, II, AND III WHERE THE PREDOMINANT ZYMOGENS AT LATE POSTWATAL STAGE.
                                                                                                                                                                              PEDSSTFQATSESLSITYGTGSMTGFLGYDTVKVGNIEDTNQIFGLSESEPGSFLYYAPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE-91009127; PubMed=2129536;
Kageydma T., Tandbe K., Koltaal O.;
Structura and development of rabbit pepsinogens. Stage specific
zymogens, nucleotide sequences of cDNNs, molecular evolution, and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia, Eutheria, Lagomorpha, Leporidae, Oryctolagus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PROSITE, PSOU141, ASP_PROTEASE, 2.
Hvdrvlase: Aspartyl protease; Digestion; Zymogen; Signal;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PHOSPHORILATION (POTENTIAL).
BY SIMILARITY.
BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACTIVATION PEPTIDE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -!- SIMILARITY: BELONGS TO PEPTIDASE FAMILY AL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pepsin II-4 precursor (EC 3.4.23.1) (Pepsin A)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (Rel. 24, Created)
(Rel. 24, Last sequence update)
(Rel. 41, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    387 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PEPSIN II-4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  350 ETWILGDAFLRRYFSVFDRGNDRIGLARA 378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       358 ELWILGDVFIRQYFTVFDRANNQLGLAAA 386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                InterPro; IPR001461; AspproteaseAl.
InterPro; IPR001969; Aspprotease_site.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          HORMONES AND RELATED SUBSTANCES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Oryctolagus cuniculus (Rabbit).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Hydrolase; Aspartyl protease;
Phosphorylation; Multigene fam
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRINTS; PR00792; PEPSIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           asp; ]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PIR, D38302, D38302
HSSP; P00790; 1PSN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-DEC-1992 (Rel.
01-DEC-1992 (Rel.
15-JUN-2002 (Rel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE PROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEROPS: A01.001:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    93
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NCBI_TaxID=9986;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pfam; PF00026;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PEP4_RABIT
P28713:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MOD RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PROPER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PEP4_RABIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        THE REAL PROPERTY OF THE PROPE
                                                                                                          ò
                                                                                                                                                                              g
                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                              Dp
                                                                                                                                                                                                                                                                                                                                                                                                          õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           measurement by Saiss Institute of Significations and an expension by Saiss Institute of Significations and an expectation of the barropous Bioinformatics institute, There are no restrictioned on this set by morpoid, institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial mortitate sequence alternates agreement (see http://www.isb-sib.ch/announce/or send an easil to ilconsedis-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    this SWISS-PROT entry is copyright. It is produced through a collaboration
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -1- FUNCTION: SHOWS PARTICULARLY BROAD SPECIFICITY; ALTHOUGH BONDS INVOLVING PHENYLALANINE AND LUCCINE ARE PREFERED; MANY OFHERS ARE ALSO CLEANYED TO SOME EXTENT.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Armyric Armyric Festerials classages improbable, preferably accounted relations of the profit of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MISCELLANEOUS: THE EXPRESSION OF PEPSINOGEN GENES IS REGULATED BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GSNLTIHPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLWVPS-FCTMPACSAPVWFR 113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 NKWIVLLGLVAFSECIV-KIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLS-----QISFR 54
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             zymogens, nucleotide sequences of CDNAs, molécular evolution, and
gene expression during development.";
J. Biol. Chem. 265:1703-17038(1990).
                                                                                                                                                                                                                                                                                                                              Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Kageyama T., Tanabe K., Kolwal O.; *Structure and development of rabbit pepsinogens. Stage-specific
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 387;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRINTS; PR00792; PERSIN.
PROFITS; PS00792; PERSIN.
Hydrolase; Asparty, protease; Digestion; Zymogen; Signal; Phosphorylation; Multigene family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PEPSIN III.
PHOSPHORYLATION (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           115: Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    15A59AC81F36F9EF CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACTIVATION PEPTIDE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Pred. No. 2.3e-66;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -: SIMILARITY: BELONGS TO PEPTIDASE FAMILY AL.
                                                                                                                                        01-AUG-1992 (Rel. 23, Created)
01-AUG-1992 (Rel. 23, Last sequence update)
15-UNY-2002 (Rel. 41, Last anoctation update)
Pepsin III precursor (EC 3.4.23.1) (Pepsin A).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
                                                                    387 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    75; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SIMILARITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                45.5%; Score 914;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEROPS; A01.001; -...
InterPro: IPR001461; AspproteaseA1.
InterPro: IPR001969; Aspprotease_site.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          HORMONES AND RELATED SUBSTANCES.
                                                                    PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE-91009127; PubMed-2129536;
                                                                                                                                                                                                                                                                                        Oryctolagus cuniculus (Rabbit).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    41969 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL; M59237; AAA85370.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      47.68;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                           STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pfam; PF00026; asp; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PIR; E38302; E38302.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HSSP; P00791; 4PEP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    387 AA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=9986;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          106
                                                                    PEP3_RABIT
P27822;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   185;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACT_SITE
ACT_SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DISULPID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DISULPID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SECUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WOD_RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PROPER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          HAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           q
                                                                                                          58 TERRETARE TO SERVICE SERVIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
```

```
FT DISSURET 106 113 FF SINILARITY.
FT DISSURED 106 113 FF SINILARITY.
FT DISSURED 107 323 FF SINILARITY.
50 SEQUENCE 3FF AAA; A5052 Mg. 7180007782A8595 CNC64;
BORTY MACHA 65.79 SCORE 96.73 11 Longth 187;
MARCHES 1813. COMMENTATIVE 7.23, FRC4 No. 5, 98-66;
MARCHES 1813. COMMENTATIVE 76; Minmatches 115; Indels 10; Cape 7;
```

ches 183 Conservative '76' Minwiches 185 Indels 10: Gaps | Manylouwservative '76' Minwiches 185 Indels 10: Gaps | Manylouwservative '76' Minwiches 185 Indels | Manylouwservative '76' Minwiches Indels | Manylouwservative '76' Minwiches Indels | Manylouwservative '76' Minwiches | Manylouwservative

8 8 8

174 VIGLAYPATSYSGATPITDNILANGGAISEPYPRPYLTARANGBSSYVMEGGYDBQYYKGEL 233
111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 1

23 METLIARADHUMAN TERMINALAN SAN TERMINAN TER

ò

301 NLLGENVISCSAIDSLPDIVFTINGIQYPLPASAYILKED-DDCTSGLEGMNVDTYTGEL 359

Search completed: April 2, 2003, 17:45:39 Job time : 27 secs

```
GenCore version 5.1.4_p5_4578
Copyright (c) 1993 - 2003 Compugen Ltd.
```

OM protein - protein search, using sw model	April 2, 2003, 17:44:45 ; Search time 87 Seconds Thibut a straight and the search time 87 Seconds 897.008 Million cell updates/sec	US-09-273-164-32 1 SCOTE: 2008 1 MENTULGLUAFSECIVALPRRYESVEDRONDRIGLARAY 379	Scoring table: BLOSUM62 Gapop 10.0 , Gapext 0.5
OM protein - F	Run on:	Title: Perfect score: Sequence:	Scoring table:

Searched: 671580 segs, 206047115 residues Total number of hits satisfying chosen parameters: 671580

Minimum DB seq length: 0
Maximum DB seq length: 2000000000
Maximum BB seq length: Addition March OB
Maximum March LOOP
Listing first 45 summaries

sp_human	sp_invert	Sp	Sp	Sp	Sp	, io	8	de e	Sp.	14: sp_unclassified:*	Sp	60	

1/1 StarChengr.

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

					SUMMARIES		
Result No.	Score	Query Match	Length DB	80	g	Description	
-	2008	100.0	379	9	046497	046497 bos tau	aurus
2	1571.5	78.3	380	9	09TTVB	-	anzna
m	1553	77.3	378	9	028155	pos t	sanzas
•	1532.5	76.3	380	9	C9TTV7	pos	Surus
2	1529.5	76.2	380	9	O9TTV4	bos	aurus
9	1526.5	76.0	380	9	6AIL60	bos	caurus
7	1526	76.0	381	9	09TTV6	hos	Surus
80	1511.5	75.3	380	9	09TEV3		Surus
6	1508.5	75.1	380	9	09Trv5	bos	caurus
10	1484	73.9	379	9	046494	pos	taurus
11	1474.5	73.4	380	9	Q9TTWS	Q9ttw5 capra hire	hircu
13	1474	73.4	379	9	Q9TTW6		hircu
13	1459.5	72.7	380	٥	002724		ries
14	1450.5	72.2	380	9	002723	ovis	aries
15	1449.5	72.2	377	9	046493	O46493 bos taurus	nrus
16	1430.5	71.2	380	9	Q9TTX2		hircu

100.0%; Score 2008; DB 6; Length 379; 100.0%; Pred. No. 1.7e-162;

Query Match Best Local Similarity

002726 ovis aries	capra	capra		capra	bos ta	O9ttx5 capra hircu	002727 ovis aries	O9ttw0 bos taurus	pos	002729 ovis aries	ovis	Q9ttw9 capra hircu	002728 ovis aries	046500 bos taurus		O9ttx4 capra hircu	Q28546 ovis aries	046499 bos taurus	pos	Q9myk3 sus scrofa		O46524 fells silve	046496 bos taurus	046523 equus zebra	0911x2 rattus norv	Q9ttw8 capra hircu	091ke6 mus musculu	Q9d106 mus musculu	
002726	OXTIGO :							0 OBILMO			002725	6MII60	002728	046500	OSTIWI	O9TTX4	928546	046499	-		Q9MYK2	6 046524				0			
380	380 6	380									379 6	341 6	341 6	375 6	370 6	376 6	397 6	376 €											
71.0	40.9	70.9	70.3	69.3	69.1	0.69	68.5	67.4		63.5	62.6	9.09	59.2	57.6	57.3	56.7	9.95	55.1	54.1	53.0		52.0					47.3	47.1	
1426.5		1424.5	1412.5	1391	1388.5	1385.5	1375.5	1353.5	н	1275.5	1257	1216	1188	1157.5	1151.5	1138.5	1137.5	1105.5	1086.5	1064	1001	1044.5	1001	990.5	186	973.5	949	946	
17	18	19							36	27											38	39	40	41	42	43	44	45	

35	
A.	

MENGENT 1 10 Code; P. PRELIMIANNY; PRT, 379 AA. 10 CONTESTS (TERRIGAEL OF CERRED) 10 CONTESTS (TERRIGAEL) OF CERRED 10 CONTESTS (TERRIGAEL) OF LARGE SEQUENCE Update) 10 CONTESTS (TERRIGAEL) OF LARGE SEQUENCE UPDATE	379 AA; 42854 MW;
---	-------------------

S.,

ò g ą ò 윤 a a à e à

ò

ò ò

```
ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61 HPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLWVPS-FCTMPACSAPVWFRQLQSST 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61 LPLRNIRDMLYVGNITIGTPPQEFQVVFDTGSSDLWVPSDFCTSPACSTHVRFRHPQSST 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            120 FOPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGLBGRNYDGVLGLNY 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121 FRPTTKTFRIIYGSGRMKGVVAHDTVRIGNLVSTDOPFGLSMABYGLBSRRFDGILGLNY 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              180 PNISFSGAIPIFDNLKNQGAISEPVFAFYLSKNKQEGSVVWFGGVDHQYYKGELNWIPLI 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 240 BAGEWRVHMDRISMKRTVIACSDGCBALVHTGTSHIEGPGRLVNNIHRLIRTRPPDSKHY 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241 RAGDWIVHVDRITHKREVIACSDGCAALVDTGTSLIQGPGRVIDNIHKLIGATPRGSKHY 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VSCFATKYLPSITFIINGIKYPMTARAYIFKDSRGRCYSAFKENTVRTSRETWILGDAFL 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VSCSVVNTLPSIIFTINGINYPVPAPAYILKDSRGYCYTAFKEORVRRSTESWLLGDVFL 360
                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                           1 MKMEVELGEVARSBELTVKIPERRVKTMRKTESGKNTENNFEKBHEVRESHESPRGSNETT 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4 IVILGLVAFSECIVKIPLROVKTMRKTLSGKNMLKNFLKEHPYRLSOISFRGSNLTIHPL 63
                                                                                                                                                                                                                                                                                                        1 MKWIVLLGLVAFSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryotaī Metazon Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Euteria; Cetartiodactyla; Ruminantia; Pecora; Bovoldea;
Bovidea; Boyinne; Bos.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Roberts R. W. XIE S.,
Subirted (RVV.1927) to the Relacionation of the Subirted (RVV.1927) to the Relacionation of the Subirted (RVV.1927) to the Relacionation of the Subirted Subirted (RVV.1927) to the Relacionation of the Subirted Subir
                                                                                                      Length 380;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 378;
                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CB7ED15D4A34FD1C CRC64:
          42605 MW: PAE2054AC092A355 CRC64:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Lest annotation update)
                                                   Score 1571.5; DB 6;
Pred, No. 2.2e-125;
Pred. No. 2.2e-125;
                                                                                                      DB 6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Last sequence update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           77.3%; Score 1553; DB 6;
79.4%; Pred. No. 8.1e-124;
ive 25; Mismatches 51;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 378 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pregnancy-specific glycoprotein (Fragment).
                                                                                                                                                                                                            31; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EUKARYOTIC ASPARTYL PROTEASES FAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   narori, ost. IRR001461; AspproteaseAl.
InterPro: IPR001969; Aspprotease_site.
Pfam: PF00026; asp: 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-NOV-1996 (TrEMBLrel. 01, Created)
01-NOV-1996 (TrEMBLrel. 01, Last sequ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRINTS; PR00792; PRPSIN.
PROSITE; PS00141; ASP_PROTEASE; 2.
Aspartyl protease; Hydrolase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         42319 MM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          360 RRYFSVFDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      361 RLYPSVFDRGNDRIGLARAV 380
                                                                                                      78.38;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL; L06153; AAA30684.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   21,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 300; Conservative
                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-JUN-2002 (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Bos taurus (Bovine).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         378 AA:
          380 AA:
                                                                                           Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
TISSUE-PLACENTA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEROPS; A01.971;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID-9913;
                                                                                                                                                                                                            Matches 297;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE
          SEOURNCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 028155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NON TER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Cocal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        028155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ô
                                                                                                                                                                                                                                                                                                                                                                                                    QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Op
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DD BRANK RANK BRANK BRAN
                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Greening-2077004; Pubeked-10819764;
Greening-207704; Pubeked-10819764;
Preceptor J.A., Xie S., Quan R.H.,
Preceptor 3,58.00 Catacal Dovine and ovine glycoproteins exhibit spatially
                                                                                                                                                                                                                                                                                                        HPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLWVPSFCTMPACSAPVWFRQLGSSTF 120
                                                                                                                                                                                                                                                                                                                                                           61 HPLRNIANLYYGNITIGTPPQEPQVVPDTGSSDLWVPSPCTWPACSAPVWFRQLGSSTF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGLEGRNYDGVLGLNYP 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121 OPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPPGLSVVPYGLEGRNYDGVLGLNYP 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181 NISFSGAIPIFDNIKNQGAISEPVFAPYLSKNKQEGSVVMFGGVDHQYYKGELNWIPLIE 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181 NISFSGAIPIFDNLKNGGAISEPVFAFYLSKNKQEGSVVMFGGVDHQYYKGELNWIPLIE 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241 AGEWRVHMDRISHKRTVIACSDGCEALVHIGTSHIBGPGRLVNNIHRLIRTRPPDSKHYV 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGENRUHMDRISMKRTVIACSDGCEALVHTGTSHIBGPGRLVNNIHRLIRTRPPDSKHYV 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SCFATKYLPSITFIINGIKYPMTARAYIFKDSRGRCYSAFKENTVRTSRETWILGDAFLR 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SCRATKEPSITEINGIKYPMTARAYIPKDSBGBCYSAFKENTVRTSBEINIIGDAELR 360
                                                                                                                                                         0: Gaps
                                                                                                      1 MKWIVLLGLVAFSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi, Mammalia, Eutheria, Cetartiodactyla, Ruminantia, Pecora, Bovoidea,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 indepocity distinct expression patterns during pregnancy.;
BLOI. Reprod. 62.1624-1631(2000).
STRINGTHY: BLOID STRINGTHY BLOID 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           recently
          0: Indels

    Last sequence update)
    Last annotation update)

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Hughes A.L., Green J.A., Garbayo J.M., Roberts R.M., "Adaptive diversification within a large family of shindly chared makes ".
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    duplicated, placentally expressed genes.";
Proc. Natl. Acad. Sci. U.S.A. 97:3319-3323(2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         380 AA
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  InterPro; IPR001461; AspproteaseAl.
InterPro; IPR001969; Aspprotease_site.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pregnancy-associated glycoprotein-16.
PAG-16.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           11-MAY-2000 (TrEMBLrel. 13, Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRINTS, PRO0792, PEPGIN.
PROSITE, PS00141, ASP_PROTEASE; 2.
Aspartyl protease; Hydrolase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE-20202633; PubMed-10725351;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        361 RYPSVPDRGNDRIGLARAY 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RYFSVFDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-MAY-2000 (TrEMBLrel. 13,
          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-JUN-2002 (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3ovidae; Bovinae; Bos.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pfam; PF00026; asp; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           30s taurus (Bovine).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SECUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SECUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FISSUE-PLACENTA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TISSUE-PLACENTA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NCBI_TaxID-9913;
379;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8VTT60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               97TT99
          Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      101
```

19 ò 윰 č 용 à 8 à 음 à 용 č

ä

Gaps

```
TISSUPPLACERN,

THE CANDED AND THE CONTROL TO THE CONTROL TO THE CONTROL THE CONTROL TO THE CONTROL THE CONT
                                                                                                                                                                                                                                              61 HPLRNINNLVYVGNITIGTPPQEFQVVFDTGSSDLWVPS-FCTMPACSAPVWFRQLQSST 119
                                                                                                                                                                                                                                                                        61 HPLRNIMDMLYVGNITIGTPPQEFQVVFDTGSSDLWVPSVFCQSLACATKVMFIHLHSST 120
                                                                                                                                                                                                                                                                                                                                                                                                        121 FRHTOKVFNIKYNTGRMKGLEVYDTVRIGDLVSTDOPFCISLAEVGFDGIPFDGVLGLNY 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  180 PNISFSGAIPIFDNLKNQGAISEPVFAFYLSKNKQEGSVVMFGGVDHQYYKGELNWIPLI 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240 EAGEWRYHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHBLIRTRPFDSKHY 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241 QAGGWTVHVDRISMKRKIIACSGGCEALVDTGTALIKGPRRLVNNIQKLIGTTPRGSKHY 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       300 VSCFATKYLPSITFIINGIKYPMTARAYIFKDSRGRCYSAFKENTVRTSRETWILGDAFL 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VSCSVVNTLPSIIPTINGINIPUPARAYILKDSESNCYTFRENIVRTSRETWILGDVFP 360
                                                                                                                          1 MKWIVLLGLVAFSECIVKIPLRQVKTMRKTLSGKNMLKNFLKBHPYRLSQISFRGSNLTI 60
                                                                                                                                                                             1 MKWLVLLWLVAFSECIVKIPLRQVKTMRKTLSGKNTLNNFLKEHTYSLSQISSRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                        120 FQPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGLEGRNYDGVLGLNY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Hughes A.L., Green J.A., Garbayo J.M., Roberts R.M.;
*Adaptive diversification within a large family of recently
duplicated, placentally expressed genes.";
Proc. Matl. Acad. Sci. U.S.A. 97:3319-3327(2000).
                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             84551EB88627A452 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-MAY-2000 (TrEMBLrel, 13, Last sequence update)
01-JUN-2002 (TrEMBLrel, 21, Last annotation update)
                                4.5e-122;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      380 AA
                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRINTS; PRO0792; PRESIN.
PROSITE; PS00141; ASP_PROTEASE; UNKNONN_1
SEQUENCE 380 AA; 42565 MM; 84551EB886.
                                Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  InterPro; IPR001461; AspproteaseA1.
InterPro; IPR001969; Aspprotease_site.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pregnancy-associated glycoprotein-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE-20202633; PubMed-10725351;
77.6%; Pre-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 360 RRYFSVFDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361 RLYFSVFDRGNDRIGLARAY 380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (TrEMBLrel. 13,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL; AF192337; AAF06003.1;
                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRELIMINARY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Bovidae; Bovinae; Bos.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pfam: PF00026: asp: 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Bos taurus (Bovine)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        HSSP: P00794: 4CMS.
                                Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NCBI_TaxID-9913;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LISSUE-PLACENTA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEROPS; A01,971;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-MAY-2000
                                                         295;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      O9TTV4:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PAG-20.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                09TTV4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PALL 60
                                                                                                                                                                             Q
                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                  윱
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Wilkinke-Zigorig, rebacted 189764; Green J.A. Kathialagen N., Geren J.A. X16 S., Quan X., Bao B., Gan X., Mathialagen N., Beckers B.Y. Reberts B.Y. Reberts B.Y. Prequancy-sascisted bovine and owne of pycoportenia exhibit spatially and temporally distinct expression patterns during pregnancy."; 8101. Reprod. 621.624.1631/2000).
                                                                                                                   181 ISFSGAIPIPDNLKNQGAISEPVFAILLSKDEQEGSVVMFGGVDRFYFGGLNMVPLIE 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       123 TNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVBYGLEGR-NYDGVLGLNYPN 181
                                                                                                                                                                                                                                                                              ISPSGAIPIFDNLKNOGAISEPVFAFYLSKNKOEGSVVNFGGVDHOYYKGELNWIPLIEA 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GEWRVHMDRISHKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTRPFDSKHYVS 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241 GDMIIHMDRISMKRKIIACSGSCEAIVDTGTSAIEGPRKLVNKIHKLIGARPRHSKYYIS 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CFATKYLPSITFIINGIKYPMTARAYIFKDSRGRCYSAFKENTVRTSRETWILGDAFLRR 361
                         1 LVLIGLVAFSECIVKIPLRRVXTWRNTVSGKNILNNILKEHVYRLSQISFRGSNLTTHPL 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Cetartiodactyla, Ruminantia, Pecora, Bovoldea,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -:- SIMILARITY: BELONGS TO PEPTIDASE FAMILY AL; ALSO KNOMN AS THE
BUKARYOTIC ASPARTYLE PORTBASES FAMILY.
FEBL: AF19234: ARP06000.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 6; Length 380;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Hughes A.L., Green J.A., Garbayo J.M., Roberts R.M.;
"Adaptive diversification within a large family of recently
duplicated, placentally expressed genes.";
Proc. Natl. Acad. Sci. U.S.A. 97:3319-3323(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             42547 MW; A500FFB82CF12BF7 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-MAY-2000 (TERMELRE). 13, Created)
01-MAY-2000 (TERMELRE). 13, Last sequence update)
01-MAY-2002 (TERMELRE). 21, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            380 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 1532.5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  InterPro, IPR001461, AspproteaseA1.
InterPro; IPR001969; Aspprotease_site.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Pregnancy-associated glycoprotein-17.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IISSUE-PLACENTA;
MEDLINE-20202633; PubMed-10725351;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRINTS: PR00792; PEPSIN.
PROSITE: PS00141; ASP_PROTEASE: 2.
Aspartyl protease; Hydrolase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 362 YFSVPDRGNDRIGLARAY 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       361 YFSVFDBGNDRIGLARAV 378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             76.38;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRELIMINARY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Bovidae; Bovinae; Bos.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pfam; PF00026; asp; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Bos taurus (Bovine).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ISSP: P00794: 4CMS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SECUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             380 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ILSSUE-PLACENTA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CBI_TaxID-9913;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEROPS: A01.971
```

CALLED : CVTT60

SO THE PROPERTY OF THE PROPERT

Aspartyl | SEQUENCE Query Match

```
;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "Pregnancy-associated boyine and ovine qlycoproteins exhibit spatially
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     300
                                                                                                                                                                                                                                                                                                                                                                                    61 HPLRNIMNLVYVGNITIGTPPQRFQVVFDTGSSDLWVPS-FCTMPACSAPVWFRQLQSST 119
                                                                                                                                                                                                                                                                                                                                                                                                             61 HPLRNIRDLEYMGNITIGTPPOBELVVEDTGSSDLAVPSDEGTSPACSKHERPRHLQSST 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121 FRLftnkTFSIEYGSGTMEGIVAHDTVRIGDLvSTDQPFGLSWTESGFEGIPFDGvLGLNY 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    300 VSCFATKYLPSITFIINGIKYPMTARAYIFKDSRGRCYSAFKENTVRTSRETWILGDAFL 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301 VSCSAVDILPSITFIINGINYRVPARAYILKDSRGCCYSSRQETTVSPSTETWILGDVFL 360
                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                      1 MKWIVLLGLVAPSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGSNLTI 60
                                                                                                                                                                                                                                                                                                                     1 MKMLVLIGLVAFSBCVVKIPLRRVKIMTKTLSGKNMLNNFLKBHAYRLSOISFHGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            120 FQFTHKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGLEGRNYDGVLGLNY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    180 PNISFSGAIPIFDNLKNGGAISEPVFAFYLSKNKQEGSVVMFGGVDHQYYKGELNWIPLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181 PNISFSGAIPIFDKLKNQGAISEPVFAFYLSKDEQEGSVVMFGGVDHRYYKGELKWVPLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      240 BAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTRPFDSKHY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            24.1 EAGDMIVHMDCISWRRKVIACSGCCRAVVDTGVSMIKGPRTLVDNIQKLIGATLRGFRHY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                                                                    Length 380;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 and importally district expression patterns during pregnancy."

14. SAILARTY: EBECASTORON:

14. SAILARTY: EBECASTORON: PEPTIDASE PAULY Al; ALSO KNOWN AS:

FEMBLAN 1792335: AND ASPARYI PROFESSES PAULY.

15. SERVINGORON: GROWN ASPERSIONS ASPARANT AND ASPARANT PROFESSES PAULY.

15. TOWN ASPARANT PROFESSES PAULY.

15. CANS. (AND. CANS. CA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE-20297004; Pubmed-10819764;
Green J.A., Xie S., Quan X., Bao B., Gan X., Mathialagan N.,
Bockers J.F., Roberts R.M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Hughes A.L., Green J.A., Garbayo J.M., Roberts R.M.;
"Adaptive diversification within a large family of recently
duplizated, placentally expressed genes.";
Proc. watl. Acad. Sci. U.S.A. 97:3319-3337(2000).
                                                                                                                                                                                             56; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ECSE6412AF2BDD0C CRC64;
                                                                                                                                    DB 6:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update
                                                                                                                                                             Pred. No. 1.5e-121;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   381 AA
                                                                                                                              76.0%; Score 1526.5;
78.2%; Pred. No. 1.5e
                                                                                                                                                                                             26; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pregnancy-associated glycoprotein-18.
PAG-18.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRT;
      PS00141; ASP_PROTEASE; 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE-20202633; PubMed-10725351;
                                                                     42306 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            360 RRYPSVFDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361 RLYPSVFDRGNDRIGLARAV 380
                                            protease; Hydrolase.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-MAY-2000 (TrEMBLrel, 13,
                                                                                                                                                                                       Matches 297; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Bovinae: Bos.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Bos taurus (Bovine).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mammalia; Eutheria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEROPS: A01.971: -.
                                                                     380 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                       Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NCBI_TaxID=9913;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FISSUE-PLACENTA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FISSUE-PLACENTA:
                                     Aspartyl s
SEQUENCE
            PROSITE;
                                                                                                                                    Ouery Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Bovidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 7
            8 % B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                     ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61 HPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLWVPS-FCTMPACSAPVWFROLOSST 119
                                                                                                                                                                                                                                                                                     LPLRNIMDIFYIGTITIGTPPOEFQVVFDTASSDLWVPSIICNSSTCSTHVRFRHRQSST 120
                                                                                                                                                                                                                                                                                                                                                                                    120 FQPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGLEGRNYDGVLGLNY 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              240 ENGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTRPPDSKHY 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241 RAGDMSVHVDRITMKGEVIGCSDGCTAMVDTGSSNIQGPGRVIDNIHKLIGATPRGSKHY 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      300 VSCFATKYLPSITFIINGIKYPMTARAYIPKDSRGRCYSAFKENTVRTSRETWILGDAFL 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                              1 MKWIVLLGLVAFSECIVKIPLRQVKTHRRTLSGKNMLKNFLKEHPYRLSQISFRGSNLTI 60
                                                                                                                                                                                       1 MKWLVLLGLVAFSECIFKIPLRRVKTMRKTLSGKNMLNNFLKEHPYKLSGISFRGSNLTT 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181 PRISESKAIPIFDKLKNEGAISEPVFAFYLSKDKQKGSVVMFGGVDHRYYKGELNWVPLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            180 PHISFSGAIPTEDHLKNOGAISEPVEAFYLSKHKOBGSVVMFGGVDHOYYKGELNWIPLI
                                                                     ä
      DB 6; Length 380;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Highes A.L., Green J.A., Garbayo J.M., Roberts R.M.;
*Adaptive diversification within a large family of recently
                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-MAY-2000 (TrEMBirel. 13, Last sequence update)
01-JNY-2002 (TrEMBirel. 21, Last annotation update)
Pregnancy-associated glycoprotein-15.
76.2%; Score 1529.5; DB 6
76.1%; Pred. No. 8.2e-122;
                                                                     29:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          duplicated, placentally expressed genes.*;
Proc. Natl. Acad. Sci. U.S.A. 97:3319-3323(2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ź
                                                               31; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                InterPro, IPR001461, AspproteaseA1.
InterPro, IPR001969; Aspprotease_site.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-MAY-2000 (TrEMBLrel. 13, Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE-20202633; PubMed-10725351;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              360 RRYFSVFDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    361 RLYFSVFDRGNDRIGLARAV 380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL; AF192332; AAF05998.1; -
Ouery Match
Best Local Similarity 76.1'
Matches 289; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRINTS: PR00792; PEPSIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Bovidae; Bovinae; Bos.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pfam; PF00026; asp; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Bos taurus (Bovine).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 P00794; 4CMS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE PROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LISSUE-PLACENTA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEROPS: A01, 971:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NCBI_TaxID-9913;
```

COTTV9;

RESULT 6

8 g g à à

à à

ò 용 HSSP:

255555

q õ g å 셤 g g e

à ò ò ò à

ä

```
240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61 HPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLWVPS-FCTMPACSAPVWFRQLQSST 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61 LPLRNIEDLMYVGNITIGTPPQEFQVVFDTGSSDFWVPSDFCTSPDCITHVRFRQHQSST 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241 EEGDWSVRWDGISMKTKVVACSDGCEAVVDTGTSLIKGPRKLVNKIQKLIGATPRGSKHY 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             300 VSCFATKYLPSITFIINGIKYPMTARAYIFKDSRGRCYSAFKENTVRTSRETWILGDAFL 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 MKWIVLLGLVAFSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSGISFRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 MKWVVLLGLVAFSECIVKIPLRRVKTMRKTLSGRNMLNNFLKEHGNRLSKISFRGSNLTT 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              120 FQPTHKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGLEGRNYDGVLGLNY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 180 PNISFSGAIPIFDNLKNQGAISEPVFAFYLSKNKQEGSVVMFGGVDHQYYKGELNWIPLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181 PDESFSEAPIFEMENEGAISEPIFAFYLSKKKREGSVVÆFGGVDHRYRGELMAVPLI.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               240 EAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTRPFDSKHY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
                                                                                                                                                                                                                                                                                                                                                                                                         ä
                                                                                                                                                                                                                                                                                                                                                    Length 380;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE-20297004; PubMed-10819764;
Green J.A., Xie S., Quan X., Bao B., Gan X., Mathialagan N.,
Beckers J.F., Roberts R.M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               recently
                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                     42564 MW; B34843B84BE9E936 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-MAY-2000 (TYEMBLE1: 13, Created)
01-MAY-2000 (TYEMBLE1: 13, Last sequence update)
01-JUN-2002 (TYEMBLE1: 21, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Hughes A.L., Green J.A., Garbayo J.M., Roberts R.M. "Adaptive diversification within a large family of dinlicated cones "..."
                                                                                                                                                                                                                                                                                                                                               DB 6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; Score 1511.5; DB 6;
; Pred. No. 2.8e-120;
30; Mismatches 58;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      duplicated, placentally expressed genes.";
Proc. Natl. Acad. Sci. U.S.A. 97:3319-3323(2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Z
           BUKARYOTIC ASPARTYL PROTEASES FAMILY
                                                                                                                                                Aspprotease_site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pregnancy-associated glycoprotein-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRT:
                                                                                                                   InterPro, IPR001461, AspproteaseAl
InterPro, IPR001969; Aspprotease_s
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE-20202633; PubMed-10725351;
                                                                                                                                                                                                                           PROSITE: PS00141; ASP_PROTEASE;
Aspartyl protease: Hydrolase
SEGUENCE 380 AA: 42564 MW: B
                                  EMBL; AF192338; AAF06004.1; -. HSSP; P00794; 4CMS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           360 RRYPSVPDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        361 RVYPSVPDRGNGRIGLAOAV 380
                                                                                                                                                                                                                                                                                                                                               75.38;
                                                                                                                                                                                                                                                                                                                                                                                                         Gatches 291; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRELIMINARY:
                                                                                                                                                                                                    PRINTS; PR00792; PEPSIN.
                                                                                                                                                                             Pfam; PF00026; asp; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Bovinae; Bos
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Bos taurus (Bovine).
                                                                                                                                                                                                                                                                                                                                                                            Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SECUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEGUENCE FROM N.A.
                                                                                            MEROPS: A01,971;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TISSUE-PLACENTA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TISSUE-PLACENTA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NCBI_TaxID=9913;
                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bovidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PAG-19.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       O9TTV5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 9
           qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                     5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REDILEGATIONOU, PROBLEGATION CONTROL OF THE STATE OF THE 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            299
                                                                                                                                                                                                                                                                                                                                                                                                                                                       61 HPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLWVPS-FCTMPACSAPVWFRQLQSST 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HPLRNIKDRLYVGNITIGTPPOEFOVIFDTGSSDLWVTSVFCTSPTGSTHVMFRHFDSST 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VSCSAVNTLPPIIPTIKGINYPVPAQAYILKDSRGHCYTTFKEDRLSPPSTETWILGDVF 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VSCFATKYLPSITFIINGIKYPMTARAYIFKDSRGRCYSAFKENTVR-TSRETWILGDAF 358
                                                                                                                                                                                                                                                                                                                                                                      1 NKWLVLLGLVAFSECTVKIPLRRVKTWRKTLSGRNILNNFLKEHAYRLSGISSCGSNLTF 60
                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                         1 MKWIVLLGLVAPSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PNISFSGAIPIPDNLKNOGAISEPVFAFYLSKNKQEGSVVMFGGVDHQYYKGELNWIPLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTRPFDSKHY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota: Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FOPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGLEGRNYDGVLGLNY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FRPTKKTFSINYGSGRMKGVVVHDTVRIGDLVSTDQPFGLSVVELGFDGIPFDGVMGLNY
                                                                                                                                                                                                                                                                                           'n
                                                                                                                                                                                                                                 Length 381;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Hughes A.L., Green J.A., Garbayo J.M., Roberts R.M.;
Aphative diversification within a large family of recently
duplicated, placentally expressed genes."
Proc. Natl. Acad. Sci. U.S.A. 97:3319-3323(2000).
                                                                                                                                                                                                                                                                                     Indels
                                                    Pfan. PROD26; asp; 1
PRINE; RR0079; PERSIN.
PROSTRE, PROD141; ASP_ROPEASE; 2.
ASpERTY procease; HYDIOLSE;
STOURNE 31 AA; 42598 MM; 224.186A04£96A8A6 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-MAY-2000 (TEMBLrel. 13, Created)
01-MAY-2000 (TEMBLrel. 13, Last sequence update)
01-MAY-2002 (TEMBLrel. 21, Last annotation update)
                                                                                                                                                                                                                     Score 1526; DB 6; 7
Pred. No. 1.6e-121;
0; Mismatches 56;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            380 AA
                                                                                                                                                                                                                                                                               30; Mismatches
InterPro; IPR001461, AspproteaseA1.
InterPro; IPR001969; Aspprotease_site.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pregnancy-associated glycoprotein-21.
PAG-21.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TISSUE-PLACENTA;
MEDLINE-20202633; PubMed-10725351;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       359 LRRYFSVFDRGNDRIGLARAY 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    76.9%;
                                                                                                                                                                                                                                                                                     Matches 293; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Bovidae; Bovinae; Bos.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Bos taurus (Bovine).
                                                                                                                                                                                                                                                        Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SECUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TISSUE-PLACENTA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NCBI_TaxID=9913;
                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      574460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 8
                                                                                                                                                                                                                                                        Best
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         O9TTV3
```

```
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Boyoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Garbayo J.M., Green J.A., Manikkam M., Beckers J.F., Klesling D.O.
Baly A.D., Roberts R.M.,
"Caprine pregnancy-associated glycoproteins (PAG): their cloning,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   expression, and evolutionary relationship to other PAG*;
-1- Reprod. Day. 57:311.322(2000).
-1- SIMILARITY: BELOAGS TO PERTINAS FAMILY A1; ALSO KNOWN AS THE
BURNROOTIC ASPARTY. PROFISASE FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Hughes A.L., Green J.A., Garbayo J.M., Roberts R.M. 
"Adaptive diversification within a large family of 
duplicated, placentally expressed genes.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Proc. Natl. Acad. Sci. U.S.A. 97:3319-3323(2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pregnancy-associated glycoprotein-11
InterPro; IPR001461; AspproteaseAl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
MEDLINE-20202633; PubMed-10725351;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE-20519101; PubMed-11066059;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL; AF191336; AAF05750.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-MAY-2000 (TrEMBLrel. 13,
01-JUN-2002 (TrEMBLrel. 21,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-MAY-2000 (TrEMBLrel. 13,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Caprinae; Capra.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRELIMINARY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Capra hircus (Goat).
                                                                                                                                                                                                                                                                                                                     sest Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NCBI_TaxID+9925;
                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Bovidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       O9TTWS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PAG-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   09TTW5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8 2 2 2 2 2 2 3
                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2555
                                                                                                                                                                                                                                                                                                                                                                                                                                                           a
'Pregnancy-associated bovine and ovine glycoproteins exhibit spatially
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              de S., Green J., Bixby J.B., Szafranska B., DeMartini J.C., Hecht S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         sascitated jiyopotolie, an apartic poteinase sublamily consisting of amy tropholast-operased quest. In St. 40 st. 10 st. 40 st. 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61 HPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLAVPS-FCTMPACSAPVWFRQLQSST 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61 HPLRNIKDLVYLANITIGTPPQEFQVFLDTGSSDLAVPSDFCTSPGCSKHVRFRHLQSST 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     120 FOPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDOPFGLSVVEYGLEGRNYDGVLGLNY 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  180 PNISFSGAIPIFDNLKNQGAISEPVFAFYLSKNKQEGSVVWFGGVDHQYYKGELNWIPLI 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PNVSSSGAIPIFDKLKNQGAISEPVFAFYLSKDKQEGSVVMFGGVDHRYYRGKLNWVPLI 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        240 EAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTRPFDSKHY 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    300 VSCFATKYLPSITFIINGIKYPMTARAYIFKDSRGRCYSAFKENTVRTSRETWILGDAFL 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1; Gabs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 MKMIVLLGLVAFSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 MKWLVVLGLVAPSECIVKIPLRRVKTMRKALSGKNMLNNFLKEHAYRLSOISPRGSNLTS 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Cetartiodactyla, Ruminantia, Pecora, Bovoidea,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121 FRITNKTFSITYGSGRIKGVVAHDTVRIGDLVSTDQPFSLSMAEYGLBHIPFDGILGLNY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241 QAGNWIIHMDSISIERKVIACSGGCVAFVDIGTAFIEGPRPLVDNMQKLIRAKPWRSKHY
                            and temporally distinct expression patterns during pregnancy."; Blol. Reprod. 62:1624-1631(2000).
BMBL. RY192336; APG60002.1; -.
RSBP: P00794; 4CMS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             The diversity and evolutionary relationships of the pregnancy-
                                                                                                                                                                                                                                                                                                                                                                                    DB 6; Length 380;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    58: Indels
                                                                                                                                                                                                                                                                                                              SAF53F618CA13CDB CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   06, Last sequence update)
21, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                    Score 1508.5; DB
Pred. No. 5e-120;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           33; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         379 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pregnancy-associated glycoprotein 6.
PAG6.
                                                                                                                                                                                                    InterPro; IPR001461; AspproteaseAl.
Pfam; PF00026; asp; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LISSUE-PLACENTA;
MEDLINE-98058726; PubMed-9371757;
                                                                                                                                                                                                                                                                                                              42649 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          360 RRYFSVFDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             361 RLYFSVFDRGNDRIGLARAV 380
                                                                                                                                                                                                                                                                                                                                                                                    75.18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-JUN-1998 (TrEMBLrel. 06,
01-JUN-1998 (TrEMBLrel. 06,
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches 288; Conservative
                                                                                                                                                                                                                                 Pfam; PF00026; asp; 1.
PRINTS; PR00792; PEPSIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRELIMINARY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               11-JUN-2002 (TrEMBLrel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Bovidae; Bovinae; Bos.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        sos taurus (Bovine).
                                                                                                                                                                                                                                                                                                                     380 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                       Sest Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEROPS: A01.971; -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID-9913;
                                                                                                                                                                 MEROPS: A01.971;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Roberts R.M.;
                                                                                                                                                                                                                                                                                                              SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 10
ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DER COURT REPRESENTATION OF COLUMN AND THE PROPERTY OF COLUMN AND THE PROPE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ð
```

recently

Last sequence update) Last annotation update)

Created) PRT:

380 AA

```
61 HPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLMVPS-FCTMPACSAPVWFRQLQSST 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    60 HPLRNIRDLFYVGNITIGTPPQEFQVIFDTGSSDLwvASIFCNSSSCAAHVRFRHHQSST 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               120 FQPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGLEGRNYDGVLGLNY 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 120 FRPTNKTFRITYGSGRMKGVVVHDTVRIGDLVSTDQPFGLCLKDSGFKGIPFDGILGLSY 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   180 PNISFSGAIPIFDNLKNQGAISEPVFAFYLSKNKQEGSVVMFGGVDHQYYKGELNWIPLI 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              180 PNKTFSGAFPIFDKLKNEGAISEPVFAFYLSKDKQEGSVVMFGGVDHRYYKGELMWVPLI 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                240 EAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTRPFDSKHY 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 300 VSCFATKYLPSITFIINGIKYPMTARAYIFKDSBGRCYSAFKBNTVRTSRETWILGDAFL 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                 1 MKWLVLLGLVAFSECIVKIPLRRVKTMRNAISCKNTLNNILKEHAYRLPQISFRGSNLT- 59
                                                                                                                                                                                                                                                                                                                                                     1 MKWIVLLGLVAFSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGSNLTI
                                                                                                                                                                                                                         Length 379;
                                                                                                                                                                                                                                                                                    60; Indels
                                                                                                                                                       42695 MW: 0B02FA084ECDA8C8 CRC64;
                                                                                                                                                                                                                         73.9%; Score 1484; DB 6;
                                                                                                                                                                                                                                                         Pred. No. 6e-118;
                                                                                                                                                                                                                                                                                    34; Mismatches
                                              PRINTS; PRO0792; PEPSIN,
PROSITE; PS00141; ASP_PROTEASE;
ASPARTY1 protease; Hydrolase,
SEQUENCE 379 AA; 42695 MM; 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                360 RRYFSVFDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           360 RRYFSVFDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                         74.78:
                                                                                                                                                                                                                                                                                    Matches 284; Conservative
                          Pfam; PF00026; asp; 1
IPR001969;
```

ä

HSSP: P00794: 4CMS

Query Match

ò 용 ó g à g ò g g ö

EUKARYOTIC ASPARTYL PROTEASES FAMILY

```
ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bockers J.F., Roberts R.M.;
"Identification of the major prognancy-specific antigens of cattle and sincetive members of the aspertic proceinses family,";
Proc. Natl. Acad. Sci. U.S.A. 88:10247-10231(1991).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61 HPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLWVP-SFCTMPACSAPVWFRQLQSST 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        60 HPLSNYIDMLYMGNITIGTPPQEFQVVFDTGSSDLWVPSSFCTILACATQARFRHLQSST 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  120 FQPTHKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGLEGRNYDGVLGLNY 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            120 FRLTHRFFRITYGSGGLKGVVAHDTVRIGNLVSTDQPFGETLKEYGFAHITFDGVLGLNY 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 180 PNISFSGAIPIFDNLKNQGAISEPVFAFYLSKNKQEGSVVMFGGVDHQYYKGELNWIPLI 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                180 PNISYSGAIPIFDKIKNEGAISEPVFAFYLSKDEQEGSVVMFGGVDHRYYKGELMMIPLT 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          240 EAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGFGRLVNNIHRLIRTRPFDSKHY 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         240 KAGDWSVRVDRITHRGEVIACADGCTALLDTGSSLIQGFGRLVDNVQNLIGTMPQGSTHY 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              90 VSCFATKYLPSITFIINGIKYPMTARAYIFKDSRGRCYSAFKENTVRTSRETWILGDAFL 359
                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                     1 MKWIVLLGLVAFSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                    1 MKWLVLLGLVAFSECIVKIPLERVKTWRKNPSGKNMMNNFLKEHAYRLSGISFRGLNLT-59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Kie S., Low B.G., Nagel R.J., Kramer K.K., Anthony R.V., Zoli A.P., Beckers J.F., Roberts R.M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Cetartiodactyla, Ruminantia, Pecora, Bovoidea,
                                                                                                                                                                                                                                                                                                                                                      ä
                                                                                                                                                                                                                                                                                                 Length 379;
                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Submitted (MAR-1997) to the EMBL/GenBank/DDBJ databases
EMBL; U94790; AAB53225.1; -.
                                                                                                                                                                                             PROSITE; PS00141; ASP_PROTEASE; 2.
ASPARTY1 Protease; HYBIOLASE,
SEQUENCE 379 AA: 42282 MW; 152D6AFFABE9C086 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-JUL-1997 (TrEMBLrel. 04, Created)
01-JUL-1997 (TrEMBLrel. 04, Last sequence update)
01-JUL-2002 (TrEMBLrel. 21, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                      57;
                                                                                                                                                                                                                                                                                                 73.4%; Score 1474; DB 6;
                                                                                                                                                                                                                                                                                                                           ; Pred. No. 4.3e-117
42; Mismatches 57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     380 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Xie S., Green J., Valdez K., Roberts R.M.;
                                                                                              InterPro: IPR001461; AspproteaseA1.
InterPro: IPR001969; Aspprotease_site.
Pfam; PF00026; asp; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pregnancy-associated glycoprotein 4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE-92052247; PubMed-1946444;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  360 RRYPSVFDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       360 RLYPSVPDRGNDRIGLARAV 379
                     EMBL; AF191335; AAF05749.1;
HSSP; P00797; 2REN.
                                                                                                                                                                                                                                                                                                                                73.48;
                                                                                                                                                                                                                                                                                                                                Best Local Similarity 73.4%
Matches 279; Conservative
                                                                                                                                                                        PRINTS; PRO0792; PEPSIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRELIMINARY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Bovidae; Caprinae; Ovis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ovis aries (Sheep)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
FISSUE-PLACENTA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=9940;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TISSUE-PLACENTA:
                                                                         (EROPS: A01.971)
                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               002724;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                002724
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
244444444
                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 q
                                                                                                                                                                                                                                                                                                      ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61 HPLRNIMDLVYLGNITIGTPPQKFQVIFDTGSADLWVPSDFCAVQACSIHARFRHLQSST 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121 FRPINRTESITYGGGTVKGIVVHDTVRIGDLVSTDQLFGLSTARYGFKRIPFDGVLGLNY 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181 PNISYSGAIPIFDKLKNEGAISEPVFAFYLSKDGQEGSVVMFGGVDHRYYKGEIMWVPLI 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     300 VSCFATKYLPSITFINGIKYPWTARAYIFKDSRGRCYSAERENTVRTSRETWILGDAFL 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61 HPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLWVPS-FCTMPACSAPVWFRQLQSST 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              120 FQPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGLEGRNYDGVLGLNY 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 180 PNISFSGAIPIFDNLKNQGAISEPVFAFYLSKNKQEGSVVMFGGVDHQYYKGELNWIPLI 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     240 EAGEWRVHMDRISMKRTVIACSDGCEALVHIGTSHIEGPGRLVNNIHRLIRIRPFDSKHY 299
                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                           1 MKWIVLIGLVAFSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                          1 MKWLVLLGLVSVSECIVKIPLRRVKTMRKTLSEKNMLNNFPKEHAYRLSQISFRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Garbayo J.M., Green J.A., Manikkam M., Beckers J.F., Kiesling D.O.,
Saly A.D., Roberts R.M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   *Caprine pregnancy-associated glycoproteins (PAG): their cloning, expression, and evolutionary relationship to other PAG.*; No. Reprod. Dev. 57:311-222(2000).
                                                                                                                                                                                                                                                                                                      ä
                                                                                                                                                                                                                                                  DB 6; Length 380;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WEDLINE-20202633; PubMed-10725351;
Bughes A.L. Green J.A., Garboy O.H., Roberts R.M.;
Yadaplive diversification within a large family of recently
diplicated placentally expressed genes.".
Proc. NRII. Acad. Sci. U. S.A. 97:3319-3323(2000).
                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                  380 AA; 42514 MW; 437C4EEBFF98D905 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-MAY-2000 (TrEMBLrel. 13, Created)
01-MAY-2000 (TrEMBLrel. 13, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
                                                                                                                                                                                                                                                                                                      60;
                                                                                                                                                                                                                                                  Score 1474.5; DB 6
Pred. No. 3.9e-117;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                379 AA
                                                                                                                                                                                                                                                                                                      39; Mismatches
                                    InterPro, IPR001461, AspproteaseAl.
InterPro, IPR001969; Aspprotease_site.
Pfam; PF00026; asp; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pregnancy-associated glycoprotein-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
MEDLINE-20519101; PubMed=11066059;
                                                                                                                   PRINTS; PR00792; PEPSIN.
PROSITE; PS00141; ASP_PROTEASE; 2.
Aspart1 protease; Hydrolase.
SEQUENCE 380 AA; 42514 MM; 4370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   360 RRYFSVFDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       361 RLYFSVFDRGNDRIGLARAV 380
                                                                                                                                                                                                                                                       73.48;
                                                                                                                                                                                                                                                                                                      Matches 280; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Bovidae; Caprinae; Capra.
NCBI_TaxID=9925;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Capra hircus (Goat).
                                                                                                                                                                                                                                                                            Sest Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                     MEROPS: A01, 971;
```

09TTW6 O9TTW6, RESULT 12

a

CREAT REAL FRANKS COCCOS SINCE COCCOS SINCE

ä

Gaps

ï

```
MEDLINE-98058726; Pubmed-9371757;
Xie S., Green J., Bixby J.B., Szafranska B., DeMartini J.C., Hecht S.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61 HPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLWVPS-FCTMPACSAPVWFRQLQSST 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61 LPLRNHKDIFYVGNITIGTPPQEFQVVFDTASSDLAVPSIFCNSSTCSTRVRFRHRGSST 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             120 POPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGLEGRNYDGVLGLNY 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121 PRLANKTFGIMYGAGKMKGVVVHDTVRIGDLVSTDQPFGLSVVESGFEHRQFDGVLGLMY 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          180 PNISFSGAIPIFDNLKNOGAISEPVFAFYLSKNKOEGSVVMFGGVDHOYYKGELNWIPLI 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              240 EAGEWRVHMDRISMKRTVIACSDGCRALVHTGTSHIEGPGRLVNNIHRLIRTRPFDSKHY 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    300 VSCFATKYLPSITFIINGIKYPMTARAYIFKDSRGRCYSAFKENTVRTSRETWILGDAFL 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 301 VPCSAVNTLPSIIFTINGINIPVPAQAYILKGFTGHCYTAFRAKRVRTSTESWVLGDVFL 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "The diversity and evolutionary relationships of the pregnancy-
associated glycoproteins, an aspartic proteinase subfamily consisting
of many fronthylatt-expressed dones."
                                                                                                                                                                                                                                                                                                                                                                 1 MKWIVLLGLVAFSECIVKIPLRQVKTHRKTLSGKNMLKNFLKEHPYRLSQISFRGSNLFI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                       1 MKWLVLFGLVAFSECIVKVPLRRLKTMRKTLSGNNILNNVLKEYPYRLPQISFRDSNVTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Dos taurus (Bovine).
Bikaryota; Metazoa: Chordata; Craniata; Vertebrata; Euteleostomi;
Memmalis: Eutheria: Genariodactyja; Ruminantia; Pecora; Bovoidea
                                                                                                                                                                                                                   Query March 72.2%; Score 1450.5; DB 6; Length 380; Best Local Similarity 72.3%; Pred. No. 4.39-115; Matches Z74; Conservative 38; Mismatches 66; Indels, 1; Matches 174; Conservative 38; Mismatches 66; Indels, 1; Mismatches 86; Indels, 1; Mismatches 86;
                                                                                                                                                           SE6009E7B1F0AFF6 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PÉGNI; PP00026; ASP. 1.
PRÍNTS; PRO0792; PESSIN.
PROSTTE: PS00141; ASP_ENCTEASE; UNKNOWN_1.
SEQUENCE: 377 AA; 42000 MM; 3647FIDSBEF79B4E CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-JUN-1998 (TERMILE). 06, Created)
01-JUN-1998 (TERMILE). 06, Last sequence update)
01-JUN-2002 (TERMILE). 21, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             of many trophoblast-expressed genes.";
Proc. Natl. Acad. Sci. U.S.A. 94:12809-12816(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             377 AA
                                          PÉDM, PP00026; ASP. 1.
PRINTS: PROTOZ9; PEPSIN.
PROSITE: PS00141; ASP_PROTEASE; UNKNOWN.]
SEQUENCE 380 AA, 42498 WW, 5EG009E7B.
       InterPro; IPR001969; Aspprotease_site.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      InterPro: IPR001461; AspproteaseA1.
InterPro: IPR001969; Aspprotease_site.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pregnancy-associated glycoprotein 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        361 RLYFSVFDRGHDRIGLARA 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             360 RRYFSVFDRGNDRIGLARA 378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL; AF020507; AAC04678.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Bovidae; Bovinae; Bos.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HSSP; P00794; 4CMS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TISSUE-PLACENTA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=9913;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEROPS: A01.971
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Roberts R.M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PAGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          046493
              88888
                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                       윱
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOUTH THE STATE OF ST
                                                                                                                                                                                                                                                                                                                                                                                             ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Identification of the major pregnancy-specific antigens of cattle and sheep as inactive members of the saparite proceinase family."; Froc. Natl. Acad. Sci. 0.5.A. 88:1027-1023[1931].
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61 HPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLWVPS-FCTMPACSAPVWFRQLQSST 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61 HPLANIRDTEYVGNITIGTPPQEFQVLFDTGSSVLMVPSVLCNSFCSIHVRFRHLQSST 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121 FRTINKTEWITYGAGTWKGVVAHDTVRIGDLVSIDOPFGLSMARYGFHGRRPDSVLGLNY 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               180 PNISFSGAIPIFDNLKNOGAISEPVFAFYLSKNKOEGSVVMFGGVDHQYYKGELNWIPLI 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181 PROSCCRPTFIFDKLKNOGAISEPVFAFYLSKDEQBGSVVWFGGVDHRYYKGELMWVPLV 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     240 EAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTRPFDSKHY 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            300 VSCFATKYLPSITFIINGIKYPMTARAYIFKDSRGRCYSAFKENTVRTSRETWILGDAFL 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      301 ISCSAVWILPSIIFTINGINFPVPAQAYILKGSTGHCYTAFRAKRVRTSTESWVLGDVFL 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         120 FQPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGLEGRNYDGVLGLNY 179
                                                                                                                                                                                                                                                                                                                                                                                             1; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 MKWIVILGLVAFSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 MKWLVLGLVARSECIFKIPLRRVKTWRKTLSGRNWLNDVLKEHPYRLPQISFRGSKLII 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        HTDIXSUP-PROCREPA,
HTDIXSUP-PROFSONS OF THE ACCOUNT OF T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     241 KADDWIIQVDRISMRREVIACSDGCDALLDTGASFIHGPGRLIDDIOKLIGSEPROLKHY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pregnancy-associated glycoprotein 3.
Outs arise (Sheep)
Mostavoric Craniata; Vertebrata; Euteleostomi;
Mosmalia; Eutheria; Cetartiodactyja; Ruminantia; Pecora; Bovoidea;
                                                                                                                                                                                                                                                                                                               72.7%; Score 1459.5; DB 6; Length 380; 72.6%; Pred. No. 7.3e-116;
                                                                                                                                                                                                                                                                                                                                                                                             66: Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Xie S., Creen J., Valdez K., Roberts R.M.;
Manticed (MAR.1997) to the EMBL/GenBank/DDBJ databases.
EMBL; U94789; AAB53224.1;
HSSP: P00794; 4CMS.
                                                                                                                                                           PRINTS: PRO0792: PERSIN.
PROSITE: PS00141: ASP_PROTEASE; UNKNOWN_2.
SEQUENCE 380 AA; 42762 MM: D50242542B624283 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-JUL-1997 (TrEMBLrel. 04, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                      37; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         380 AA
                                                                                                         Aspprotease_site.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-JUL-1997 (TrEMBLrel. 04, Created)
                                                               InterPro; IPR001461; AspproteaseAl
InterPro; IPR001969; Aspprotease_s
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEROPS; A01.971; -. InterPro; IPR001461; AspproteaseAl.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  360 RRYFSVFDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     72.68;
                                                                                                                                                                                                                                                                                                                                            Best Local Similarity 72.69
Matches 276; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Bovidae: Caprinae; Ovis.
NCBI_TaxID=9940;
                                                                                                                               Pfam; PF00026; asp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                            KEROPS: A01,971;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FISSUE-PLACENTA;
                                                                                                                                                                                                                                                                                                                      Duery Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  002723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 14
8888888888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            윤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          e
```

	ë				
	sde	09	09	119	120
: 22	3; Gaps	GSNLT	GSNIT	SSOTO	HLESS
Length	Indels	YRLSQISFF	VARLSQISSE	ACSAPVWFF	SACSTHIRE
DB 6;	99	NFLKEH	NFLKEQ!	S-FCTME	SVFCPS
Query Match 72.2%; Score 1449.5; DB 6; Length 377; Rest Local Similarity 75.1%; Dred No. 5 1e-115.	Mismatches	1 MKMIVLLGLVAFSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGSNLTI 60	1 MKWLVLIGELTSSECIVILPLTKVKTMRKTESEKNMINNFLKEQAYRLSQISSRGSNITI 60	61 HPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLAVPS-FCTMPACSAPVWFRQLQSST 119	61 HPLRNIMDAVYVCKITIGTPPQEFQVVFDTGSSELWVPSVFCPSSACSTHIRFRHLESST 120
72.28; 8	tive 25;	IVKIPLROVK	IVILPLTKVK	TIGTPPOEFO	TIGTPPORFO
Similarity	4: Conserva	TVLLGLVAFSE	TVLLGLITSSE	RNIMNLVYVGN	RNIMDMVYVGK
Match	ss 28	1 MK	1 MK	S1 HPI	51 HPL
Query	Match	λ'n	q	à	90

180 PNISFSGAIPIFDNLKNQGAISEPVPAFYLSKNKQEGSVVNFGGVDHQYYKGELNWIPLI 239

8

à â ò

181 PDMSFITTIPIPDNLKNQGAFSEPVFAFYLGKVK--GSVVWFGGVDHTYKGELNWVPLI 238

Q

240 EAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTRPFDSKHY 299

g o 6 Š

360 RRYPSVFDRGNDRIGLAR 377 ò

359 RLYFSVFDRGNDRIGLAQ 376

Search completed: April 2, 2003, 17:50:11 Job time : 89 secs

Perfect score: Scoring table:

sedneuce: searched:

OM protein

Run on:

```
Appli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4 IVLIGLVAPSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGS----NLT
       Sequence 3
Sequence 2
Sequence 2
Sequence 2
Sequence 2
Sequence 2
                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                         Sequence 2
Sequence 2
Sequence 8
                                                                                                                                                                                                                  Sequence
                                                                                                                                                                                                                                                      Sequence
                                                                                                                         Seguence
                                                                                                                                        Sequence
                                                                                                                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; Score 772.5; DB 1; Length 396;
; Pred. No. 7.2e-75;
72; Mismatches 147; Indels 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: HASTINGS, ET AL.
TITLE OF INTRINGS, Human Osteoclast-Derived Cathepsin
NUMBER OF SUDUKCES: 14
CORRESPONDANE ADDRESS:
ADDRESSEE: CARELLA, BYRNE, BAIN, GILFILLAN,
ADDRESSEE: CECCHI, STEWART 6 OLSTEIN
STREET: 6 BECKER FARM ROAD
CITY: ROSELAND.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: US/08/208,007A
FILING DAME: March 8, 1894
CLASSIFICATION: 435
PRIOR APPLICATION DATA: APPLICATION NUMBER: NO. 5501969e
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    36,134
ER: 325800-95
                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-08-208-007A-13
US-08-208-007A-13
Factor of 13. Application US/08208007A
Factor No. 5501969
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                60-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 INCH DISKETTE
COMPUTER: IBM PS/2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE/DOCKET NUMBER: 32
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         OPERATING SYSTEM: MS-DOS
SOFTWARE: WORD PERFECT 5.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FILING DATE: NO. 5501969e
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEFAX: 201-994-1744
INFORMATION FOR SEQ ID NO: 13:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      39.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME: FERRARO, GREGORY D. REGISTRATION NUMBER: 36.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           201-994-1700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     396 AMINO ACIDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Local Similarity Autohes 155; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CURRENT APPLICATION DATA:
                                                                                                                                                                                                               433
446
446
459
459
501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TOPOLOGY: LINEAR
MOLECULE TYPE: PROTEIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STATE: NEW JERSEY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AMINO ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               HSA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STRANDEDNESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               07068
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-08-208-007A-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COUNTRY:
   ENGTH:
   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 13, Appl
Sequence 13, Appl
Sequence 8, Appl
Patent No. $217891
Sequence 1, Appl
Sequence 12, Appl
Sequence 4, Appl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 13, Appl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 13, App.
Sequence 13, App.
                                                                                                                                April 2, 2003, 17:45:10 ; Search time 29 Seconds (without alignments) 384:527 Willion cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result behig printed,
and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                              1 MKWIVLLGLVAFSECIVKIP......RRYFSVFDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 12
Sequence 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 1
Sequence 4
Sequence 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 3
Sequence 6
Sequence 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 2
Sequence 2
Sequence 6
Sequence 6
Sequence 6
Sequence 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /cgn2.6/ptodata/1/laa/SA_COMB.pep:
/cgn2.6/ptodata/1/laa/SCOMB.pep:
/cgn2.6/ptodata/1/laa/ScOMB.pep:
/cgn2.6/ptodata/1/laa/ScOMB.pep:
/cgn2.6/ptodata/1/laa/ScOMB.pep:
/cgn2.6/ptodata/1/laa/ScOMB.pep:
                       GenCore version 5.1.4_p5_4578
Copyright (c) 1993 - 2003 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (18.6) (1
                                                                                                                                                                                                                                                                                                                                                                               Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                            262574 seqs. 29422922 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                 protein search, using sw model
                                                                                                                                                                                                                                                                                     BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Issued Patents AA:*
                                                                                                                                                                                                                                                                                                                                                                                                                  Minimum DB seq length: 0
Maximum DB seq length: 2000000000
                                                                                                                                                                                                           US-09-273-164-32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query
Match Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              330000
```

556.5 548.5 556.5 556.5 556.5 556.5 556.5

Score

Š

Database

772.5 772.5 772.5 772.5 772.5 772.5 642.6 617 617

us-09-273-164-32,rai

~

```
60 IHPLRNIMNLVYVGNITIGTPPQEPQVVFDTGSSDLMVPS-FCTMPACSAPVWFRQLQSS 118
                                                               KEPLINYLDMEYFGTISIGSPRONFTVIFDTGSSNLWVPSVYCTSPACKTHSRPQPSQSS 126
                                                                                                                      119 TFQPTNKTFT1TYGSGS#KGFLAYDTVRIGDLVSTDQPFGLSVVEYG--LEGRNYDGVLG 176
                                                                                                                                            LB7 LGYPSLAVGGVTPVFDNWAAAONLVDLPMFSVYMSSNPEGGAGSELIFGGYDHSHFSGSEN 246
                                                                                                                                                                                                                                                                                                                              247 WVPVTKQAYWOIALDNIQVGGTVMFCSEGCOAIVDTGTSLITGPSDKIKOLONAIGBAPV 306
                                                                                                                                                                                                                                                                                                                                                                         295 DSKHYVSCFATKYLPSITFIINGIKYPMTARAYI---PKDSRGRCYSAFKENTVR-TSRE 350
                                                                                                                                                                                                       177 LNYPNISFSGAIPIFDNLKNQGAISEPVFAFYLSKNKQ--EGSVVMFGGVDHQYYKGELN 234
                                                                                                                                                                                                                                                                                    235 WIPLIEAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTRPP 294
                                                                                                                                                                                                                                                                                                                                                                                                               DGEYAVECANLNVMPDVTFTINGVPYTLSPTAYTLLDFVDGMOFCSSGFOGLDIHPPAGP 366
9 LVLLELGEAGGSLHRVPLRRHPSLKKKLRARSQLSEFWKSH--NLDMIQFTESCSMDQSA 66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: (Hilman, Zonifer L. APPLICANT: COLDER, MAIN COLDER, MAIL MAPLICANT: Guegler, MAITH CAPLICANT: Baugh, MAITH CHURN FIGURE OF SEQUENCES: 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SOFTWARE: FASTSED for Windows Version 2.0 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Incyte Pharmaceuticals, Inc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PP-0479 US
                                                                                                                                                                                                                                                                                                                                                                                                                                                         351 TWILGDAFLRRYFSVFDRGNDRIGLARAY 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: US/09/032,523
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 9, Application US/09032523
Patent No. 6232454
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE/DOCKET NUMBER: 36,749
REFERENCE/DOCKET NUMBER: PF-
TELEPHONE: 650-855-0555
TELEPHONE: 650-855-0555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STREET: 3174 Porter Drive
CITY: Palo Alto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                IBM Compatible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             INFORMATION FOR SEQ ID NO: 9:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE:
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       396 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME: Billings, Lucy J
REGISTRATION NUMBER: 36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Bandman, Olga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE CHARACTERISTICS:
LENGTH: 396 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Diskette
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEFAX: 650-845-4166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE:
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMMEDIATE SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OSA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: amino a
STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDIUM TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    94304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-032-523-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STATE:
                                                                                                                                                                                                                                                                                                                                                                                                               0.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 2
                                          ò
                                                                            ě
                                                                                                                      ò
                                                                                                                                                             g
                                                                                                                                                                                                       ⋩
                                                                                                                                                                                                                                         9
                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                     õ
```

```
60 IHPLRNIMNLVYVGNITIGTPPOEFQVVFDTGSSDLWVPS-FCTMPACSAPVWFRQLQSS 118
                                                                                                                                                                                                                                                                                                                                     67 KEPLINYLDMEYFGTISIGSPPONFTVIFDTGSSNLWVPSVYCTSPACKTHSRFQPSGSS 126
                                                                                                                                                                                                                                                                                                                                                                                    119 TFQPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYG - - LEGRNYDGVLG 176
                                                                                                                                                                                                                                                                                                                                                                                                           177 INYPNISFSGAIPIFDNLKNQGAISEPVFAFYLSKNKQ--EGSVVMFGGVDHQYYKGELN 234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               235 WIPLIBAGEWRVHMDRISMKRTVIACSDGCEALVHIGTSHIBGPGRLVNNIHRLIRTRPF 294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       295 DSKHYVSCFATKYLPSITFIINGIKYPMTARAYI ---FKDSRGRCYSAFKENTVR-TSRE 350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  307 DGEYAVECANLNVMPDVTFTINGVPYTLSPTAYTLLDFVDGMQFCSSGFQGLDIHPPAGP 366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             60 IHPLRNIMNLVYVGNITIGTPPOEFOVVFDTGSSDLWVPS-FCIMPACSAPVWFROLOSS 118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    67 KEPLINYLDMEYFGTISIGSPPQNFTVIFDTGSSNLWVPSVYCTSPACKTHSREQPSQSS 126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      119 TFQPTNKTFTTTYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYG--LEGRNYDGVLG 176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               127 TYSOPGOSFSIQYGTGSLSGIIGADQVSVBGLTVVGQQFGESVTEPGQTFVDAEFDGILG 186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              177 LNYPHISFSGAIPIFDNLKNQGAISEPVFAFYLSKNKQ--EGSVVMFGGVDHQYYKGELN 234
                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4 IVLLGLVAFSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGS----NLT 59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9 LVLLELGERAGGSLHRVPLRRHPSLKKKLRARSQLSEFWKSH--NLDMIQFTESCSMDQSA 66
                                                                                                                                                                                                   4 IVLLGLVAFSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGS----NLT 59
                                                                                                                                                                                                                                             9 LVLLELGEAQGSLHRVPLRRHPSLKKKLRARSQLSEFWKSH--NLDMIQFTESCSMDQSA 66
                                                                                                      ; Score 772.5; DB 4; Length 396;
; Pred. No. 7.2e-75;
72; Mismatches 147; Indels 15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            38.5%; Score 772.5; DB 4; Length 396; 39.8%; Pred. No. 7.2e-75;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      72: Mismatches 147: Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HUMAN OSTEOCLAST-DERIVED CATHEPSIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CURRENT APPLICATION NUMBER: US/08/915,095A
CURRENT FILING DATE: 1997-08-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 351 TWILGDAFLRRYPSVFDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ; Sequence 13, Application US/08915095A
; Patent No. 6383793
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQ ID NOS: 14
                                                                                                           38.5%;
                                                                                                                                                         Matches 155; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Hastings, et al
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches 155; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILE REFERENCE: PF107D4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best Local Similarity
LIBRARY: Gen...
                                                                                                                                  Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-08-915-095A-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-08-915-095A-13
                                                                 US-09-032-523-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQ ID NO 13
LENGTH: 396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               a
                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                    ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
```

= = = = = =

351 TWILGDAFLRRYPSVFDRGNDRIGLARAV 379

a

8

Sequence 13, Application US/08798096 Patent No. 6387682

RESULT 4 US-08-798-096-13

APPLICANT: Hastings, et al.

GENERAL INFORMATION:

Patentin Ver. 2.1

SEC ID NO 13 TYPE: PRT Query Match

SOPTWARE: LENGTH:

Gaps

15;

```
60 IHPLRNIMNLVYVGNITIGTPPOEFOVVFDTGSSDLWVPS-FCTWPACSAPVWFRQLQSS 118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      67 KEPLINYLDMEYFCTISIGSPRONFTVIFDTGSSNLWVPSVYCTSPACKTHSRROPSGSS 126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     119 TEQPTHKTFTTTYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYG--LEGRHYDGVLG 176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               127 TYSOPGOSPSIOYGTGSLSGIIGADOVSVEGLTVVGOOFGESVTEPGOTFVDAEPDGIIG 186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    187 LGYPSLAVGGVTPVFDNMMAQNLVDLPMFSVYMSSNPEGGAGSELIFGGYDHSHPSGSLN 246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              247 WVPVTKQAYWQIALDNIQVGGTVMFCSEGCQAIVDTGTSLITGPSDKIKOLQNAIGAAPV 306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    295 DSKHYVSCPATKYLPSITFIINGIKYPMTARAYI---FKDSRGRCYSAPKENTVR-TSRE 350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 307 DGEYAVECANLNVMPDVTFTINGVPYTLSFTAYTLLDFVDGMOFCSSGFQGLDIHPPAGF 366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              177 LNYPNISFSGAIPIFDNLKNQGAISEPVFAFYLSKNKQ--EGSVVMFGGVDHQYYKGELN 234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 23 WIPLIEAGEWRVHMDRISMKRTVIACSDGCEALVHIGTSHIEGPGRLVNNIHRLIRTRPF 294
                                                                                                                                                                                                                                                                                                                                                                                                                                              4 IVLIGLVAFSECIVKIPLROVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGS----NLT 59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9 LVLLELGEAGGSLHRVPLRRHPSLKKKLRARSQLSEFWKSH - NLDMIQFTESCSMDQSA 66
                                                                                                                                                                                                                                                                                                                           Length 396,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Preparation of Heterologous Proteins on
                                                                                                                                                                                                                                                                                                                     38.5%; Score 772.5; DB 4; Length 3 39.8%; Pred. No. 7.2e-75; ive 72; Mismatches 147; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOFTWARE: PatentIn Release #1.0, Version #1.30
FILE REFERENCE: PP107D3
CURRENT APPLICATION NUMBER: US/08/798,095A
CURRENT FILING DATE: 1997-02-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              351 TWILGDAFLRRYFSVFDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    367 LWILGDVPIRQFYSVFDRGNNRVGLAPAV 395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/846,021A
FILING DATE: April 25, 1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REPERENCE/DOCKET NUMBER: 9369-039
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence B, Application US/08846021A
Patent No. 5948682
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       oil Bodies
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Maurice M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            E: BERESKIN & PARR
40 King Street West
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REGISTRATION NUMBER: 40,261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATTORNET/AGENT INFORMATION:
NAME: Gravelle, Micheline
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Floppy disk
                                                                                                                   Patentin Ver. 2.1
                                                                                                                                                                                                                                                                                                                                                                                        Matches 155; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CORRESPONDENCE ADDRESS:
ADDRESSEE: BERESKIN
STREET: 40 King Stre
                                                                                                                                                                                                                                ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NUMBER OF SEQUENCES:
                                                                                          NUMBER OF SEQ ID NOS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                         Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Canada
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STATE: Ontario
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Toronto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MSH 3Y2
                                                                                                                                                                                                                                                                    US-08-798-095A-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-08-846-021A-8
                                                                                                                   SOFTWARE: Part
SEQ ID NO 13
LENGTH: 396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COUNTRY:
                                                                                                                                                                                                        TYPE: PRT
                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              a
                                                                                                                                                                                                                                                                                                                                                                                                                                                    ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          7:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    60 IHPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLMVPS-FCTMPACSAPVNFRQLQSS 118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         67 KEPLINYLDMEYFÇTISIGSPPQNFTVIFDTGSSNLWVFSVYCTSPACKTHSRFQPSQSS 126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               247 WVPVTKOAYWOIALDNIOVGGTVMFCSEGCOAIVDTGTSLITGPSDKIKOLONAIGAAPV 306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DSKHYVSCFATKYLPSITFIINGIKYPMTARAYI---FKDSRGRCYSAFKENTVR-TSRE 350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    307 DGEYAVECANLAVAPDVTFTINGVPYTLSPTAYTLLDFVDGHQFCSSGFQGLDIHPPAGP 366
      187 LGYPSLAVGGVTPVFDNMMAONLVDLPMFSVYMSSNPEGGAGSELIFGGYDHSHFSGSLN 246
                                                            235 WIPLIEAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGFGRLVNNIHRLIRTRPF 294
                                                                                                                         247 WVPVTKOAYWOIALDNIOVGGTVMFCSEGCOAIVDTGTSLITGPSDKIKOLONAIGAAPV 306
                                                                                                                                                                               295 DSKHYVSCFATKYLPSITFIINGIKYPHTARAYI---FKDSRGRCYSAFKENTVR-TSRE 350
                                                                                                                                                                                                                                      307 DGEYAVECANLAVARDVIFTINGVPYTLSPTAYTLLDFVDGMQFCSSGFQGLDIHPPAGP 366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              119 TPQPTNKTFTTTYGSGSMKGFLAYDTVRIGDLVSTDQPPGLSVVEYG--LEGRNYDGVLG 176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    127 TYSOPGOSFSIQYGTGSLSGIIGADQVSVEGLTVVGQQFGESVTEPGQTFVDAEFDGILG 186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 177 LNYPNISFSGAIPIFDNLKNGGAISEPVFAFYLSKNKO--EGSVVMFGGVDHQYYKGELN 234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    235 WIPLIEAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTRPF 294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4 IVLIGLVAFSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGS----NLT 59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9 LVLLELGEAGGSLHRVPLRRHPSLKKKLRARSQLSEFWKSH--NLDMIQFTESCSMDQSA 66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 396;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE OF INVENTION: HINAN OSTBOCLAST-DERIVED CATHERSIN STILE RESERVENCE: PRIOTOZO CHRERE TARKO ENER. 1397-02-12 CHRERE THING DREE: 1397-02-12 WINGRER OF SEQ. ID NOS: 14
```

DB 4; 72; Mismatches 147; 38.5%; Score 772.5; DB 4 39.8%; Pred. No. 7.2e-75;

Matches 155; Conservative . ORGANISM: Homo sapiens US-08-798-096-13 Best Local Similarity

ò g ó Ś Q ò g HUMAN OSTEOCLAST-DERIVED CATHEPSIN

Sequence 13, Application US/08798095A Patent No. 6423507

US-08-798-095A-13

GENERAL INFORMATION: APPLICANT: Hastings, et al. TITLE OF INVENTION: HUMAN C

351 TWILGDAFLRRYFSVFDRGNDRIGLARAV 379 LMILGDVFIRQFYSVFDRGNNRVGLAPAV 395

õ

TELECOMMUNICATION INFORMATION:
TELEPHONE: (416) 361-1398
INFORMATION FOR SED. ID NO: 8: SEDUREC CHARACTERISTICS.
LINGTH 477 mainto acids
TYPE: amainto acids

Matches 146; Conservative

Best Local Similarity

Ouery Match

MOLECULE TYPE: protein

linear

TOPOLOGY: US-08-846-021A-8

```
134 GSMKGFLAYDTVRIGDLYSTDQPFGLSVVEYG--LEGRNYDGVLGLNYPNISFSGAIPIF 191
                           215 GSMQGILGYDTVTVSNIVDIQQTVGLSTGEPGDVFTYARPDGILGMAYPSLASEYSIPVF 274
                                                                                                        192 DNLKNOGAISEPVFAFFLSKNKQEGSVVMFGGVDHQFYKGELNWIPLIEAGEWRVHMDRI 251
                                                                                                                              252 SMKRTVIACSDGCEALVHTGTSHIBGPGRLVNNIHRLI-RTRPFDSKHYVSCFATKYLPS 310
                                                                                                                                                                                                                                                                  334 TISGVVVACEGGCQAILDTGTSKLVGPSSDILNIQQAIGATQNQYGEPDIDCDNLSYMPT 393
                                                                                                                                                                                                                                                                                                                         311 ITFIINGIKYPWTARAYIPKDSRGRCYSAFKENTVRTSRETWILGDAFLRRYFSVFDRGN 370
                                                                                                                                                                                                                                                                                                                                                                           394 VVFEINGKMYPLTPSAYTSQD-QGFCTSGFQS---ENHSQGWILGDVFIREYYSVFDRAN 449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HUMAN PROTEINASE MOLECULES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SYSTEM: DOS
FastSEQ for Windows Version 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CORRESPONDENCE ADDRESS:
ADDRESSEE: Incyte Pharmaceuticals, Inc.
STREET: 3174 Porter Drive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE/DOCKET NUMBER: PF-0479 US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US/09/032,523
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 3, Application US/09032523
Patent No. 6232454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Hiliman, Jennifer L. APPLICANT: COLley, Neil C. APPLICANT: Guegler, Karl APPLICANT: Baugh, Mariah
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  36,749
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IBM Compatible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LENGTH: 349 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Bandman, Olga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NAME: Billings, Lucy J
REGISTRATION NUMBER: 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEGUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Diskette
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PELEFAX: 650-845-4166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LIBRARY: PANCTUTO1
CLONE: 1515165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Palo Alto
                                                                                                                                                                                                                                                                                                                                                                                                                                  371 DRIGLARAY 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         450 NLVGLAKAI 458
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            IMMEDIATE SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDIUM TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                94304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PILING DATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SOPTWARE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPITTER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      POPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-032-523-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-032-523-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         76 TIGTPPQEPQVVEDTGSSDLWVPS-PCTMPACSAPVWFRQLQSSTFQPTNKTFTITYGSG 134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          135 SMKGFLAYDTVRIGDLVSTDQPFGLSVVEYG--LEGRNYDGVLGLNYPNISFSGAIPIFD 192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   185 SWGGILGYDTVTVSNIVDIQQTVGLSTQEPGDVFTYAEFDGILGMAXPSLASEYSIPVFD 244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 245 NAMNRHLVAQDLFSVYMDRNGQE-SMLTLGAIDPSYYTGSLHWVPVTVQQYWQFTVDSVT 303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               304 ISGVVVACEGGCQAILDFGTSKLVGPSSDILNIQQAIGATQNQYGEFDIDCDNLSYMPTV 363
                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                       65 ITRIPLYKGKSLRKALKEHGLLEDFLQKQQYGISSKYSGFGEVASVPLTNYLDSQYFGKI 124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     193 NLXNOGAISEPVFAFYLSKHKQEGSVVMFGGVDHQYYKGELNWIPLIEAGEWRVHMDRIS 252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              253 MKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLI-RTRPFDSKHYVSCFATKYLPSI 311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      312 TFIINGIKYPMTARAYIFKDSRGRCYSAFKENTVRTSRETWILGDAFLRRYFSVFDRGND 371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       364 VFEINGKMYPLTPSAYTSQD-GGFCTSGFQS---ENHSQKWILGDVFIREYXSVFDRANN 419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              75 ITIGIPPQEFOVVFDTGSSDLAVPS-FCTAPACSAPVWFROLOSSTFQPINKTFTITYGS 133
                                                                                                                                                                                                                                                                                                                                                                16 IVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGSNLTIHPLRNIMNLVYVGNI 75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             35.5%; Score 712.5; DB 6; Length 458;
39.8%; Pred. No. 2.7e-68;
tive 76; Mismatches 135; Indels 11; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  96 IIRIPLYKQGKSLRKALKEHGLLEDFLQKQQYGISSKYSGFGEVASVDLTNYLDSQYFG- 154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           16 IVKIPL-ROVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGSNLTIHPLRNIMNLVYVGN 74
                                                                                                                                                                                                                                                                                                                    6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: BRAKE, ANTHONY J.; VAN DEN BERG, JOHAN A.
TITLE OF INVENTION: DAG COMSTHOUTS CONTAINING A KLUDYDROHYCES
A PACYOF LEADER SEQUENCE FOR DIRECTING SECRETION OF HETEROLOGOUS
                                                                                                                                                                                                                                                             Length 427;
                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                             36.2%; Score 726.5; DB 2;
39.7%; Pred, No. 7.5e-70;
ive 75; Mismatches 138;
```

; Patent No. 5217891

5217891-15

RESILT 7

POLYPEPTIDES

DB 4; Length 349;

32.0%; Score 642;

Query Match

CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/507,398
FILING DATE: 09-APR-1990

APPLICATION NUMBER: 78,551 FILING DATE: 28-JUL-1987

LENGTH: 458

5217891-15

SEO ID NO:15:

PRIOR APPLICATION DATA: NUMBER OF SEQUENCES:

Best Local Similarity 39.8 Matches 147; Conservative

용

Query Match

136;

ò

à

11 67 IPEVLKNYMOAQYYGETGIGTPPQCPTVVEDTGSSNLAVPSIHCKLLDIACWIHHKYNSD 126 165 GLE--GRNYDGVLGLNYPNISFSGAIPIFDNLKNOGAISEPVFAFYLSK--NKQEGSVVM 220 221 FGGVDHQYYKGELNWIPLIEAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGR 280 63 ----LRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLAVPSF-CTM--PACSAPVWFRQL 115 116 OSSTFOPTNKTFTITYGSGSMKGFLAYDTVRI------GDLVSTDOPFGLSVVBY 164 127 KSSTYVKNGTSFDIHYGSGSLSGYLSQDTVSVPCQSASSALGGVKVERQVFGEATKQP 186 187 GITFIAAKFDGILGMAYPRISVNNVLPVFDNIMQQKLVDQNIFSFYLSRDPDAQPGGELM 246 247 LGGTDSKYYKGSLSYLNVTRKAYWQVHLDQVEVASGLTLCREGCEAIVDTGTSLMVGPVD 306 281 LVNNIHRLIRTRP-FDSKHYVSCFATKYLPSITFIINGIKYPMTARAYIFKDSRG---RC 336 307 EVRELOKAIGAVPLIQGEYMIPCEKVSTLPAITLKLGGKGYKLSPEDYTLKVSQAGKTLC 366 Gaps 4 INLIGLVAFSECIVKIPLRQVKTMRKTLSG-KNMLKNFLKEHPYRLSQISFRGSNLTIHP 62 9 LALCLLABPASALVRIPLHKFTSIRRTMSEVGGSVEDLIAKGP--VSKTSQAVPAVTEGP 66 ; Score 617; DB 1; Length 412; ; Pred. No. 4.7e-58; 76; Mismatches 153; Indels 30; TITLE OF INVENTION: Cloning and Characterization of Napsin ADORESSEE: Petrea L. Pabst STREET: 2800 One Atlantic Center, 1201 W. Peachtree STREET: St. 337 YSAFKENTV-RISRETWILGDAFLRRYFSVFDRGNDRIGLARA 378 367 LSGFMGMDIPPPSGPLWILGDVFIGRYYTVFDRDNNRVGFABA 409 Patentin Release #1.0, Version #1.25 NAME: Pabst, Patrea L. REGISTRATION NUMBER: 31,284 REFERENCE/DOCKET NUMBER: OMRF 166 US 60/046,126 US/08/974,693 APPLICATION NUMBER: US 60/031,196 COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS Sequence 4, Application US/08974691 Patent No. 6225103 Query Natch Best Local Similarity 35.7%; Matches 144; Conservative 76 APPLICANT: Keolsch, Gerald APPLICANT: Lin, Xinli APPLICANT: Tang, Jordan 20-NOV-1996 FILING DATE: 09-MAY-1997 ATTORNEY/AGENT INFORMATION: Floppy disk 20-NOV-1997 CURRENT APPLICATION DATA: NUMBER OF SEQUENCES: 1. CORRESPONDENCE ADDRESS: COMPUTER READABLE FORM: MEDIUM TYPE: Floppy CLASSIFICATION: PRIOR APPLICATION DATA: PRIOR APPLICATION DATA: MOLECULE TYPE: PROTEIN APPLICATION NUMBER: APPLICATION NUMBER: GENERAL INFORMATION: 30309-3450 MITT: Atlanta USA FILING DATE: FILING DATE: Š US-08-208-007A-12 SOFTWARE: COUNTRY: US-08-974-691-4 STATE: Query Match ò q g ò 8 8 ŝ 60 IHPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLWVPS-FCTMPACSAPVWFRQLQSS 118 67 KEPLINYLDMEYFGTISIGSPPQNFTVIFDTGSSNLWVPSVYCTSPACKTHSRFQPSQSS 126 119 TFQPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYG--LEGRNYDGVLG 176 127 TYSQPGQSFSIQYGTGSLSGIIGADQVSVEGLTVVGQQFGESVTEPGQTFVDAEFDGILG 186 177 LNYPNISFSGAIPIFDNLKNQGAISEPVFAFYLSKNKQ--EGSVVMFGGVDHQYYKGELN 234 235 WIPLIEAGEWRVHUDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTRPF 294 295 DSKHYVSCFATKYLPSITFIINGIKYPWTARAYI - - - FKDSRGRCYSAFKENTVR - TSRE 350 262 --NYAVECANLNVMPDVTFTINGVPYTLSPTAYTLLDFVDGMQFCSSGFQGLDIHPPAGP 319 4 IVLLGLVAFSECIVKIPLRQVKTMRKTLSGKNMLKNPLKEHPYRLSQISFRGS----NLT 59 9 LVLLELGEAGGSLHRVPLRRHPSLKKKLRARSQLSEFWKSH--NLDMIQFTESCSMDQSA 66 623 35.0%; Pred. No. 7.3e-61; tive 64; Mismatches 127; Indels Human Osteoclast-Derived Cathepsin 14 ADDRESSEE: CARELLA, BYRNE, BAIN, GILFILLAN, ADDRESSEE: CECCHI, STEWART & OLSTEIN 247 WVPVTKQAYWQIALD-----351 TWILGDAFLRRYFSVFDRGNDRIGLARAV 379 320 LWILGDVFIRGFYSVFDRGNNRVGLAPAV 348 APPLICATION NUMBER: US/08/208,007A FILING DATE: March 8, 1994 No. 5501969e US-08-208-007A-12 ; Sequence 12, Application US/08208007A ; Patent No. 5501969 COMPUTER READABLE FORM: MEDIUM TYPE: 3.5 INCH DISKETTE 36,134 TELECOMMUNICATION INFORMATION: 6 BECKER FARM ROAD SOFTWARE: WORD PERFECT 5.1 APPLICATION NUMBER: NO. 550 INFORMATION FOR SEQ ID NO: 12: SEQUENCE CHARACTERISTICS: LENGTH: 412 AMINO ACIDS FILING DATE: NO. 5501969e
ATTORNEY/AGENT INFORMATION:
NAME: FERRARO, GREGORY D.
REGISTRATION NUMBER: 36,1 APPLICANT: HASTINGS, ET AL. WS-DOS REFERENCE/DOCKET NUMBER: Conservative CURRENT APPLICATION DATA: 201-994-1744 NUMBER OF SEQUENCES: 14 CORRESPONDENCE ADDRESS: PRIOR APPLICATION DATA: 435 IBM PS/2 NEW JERSEY OPERATING SYSTEM: TYPE: AMINO ACID FITLE OF INVENTION: TOPOLOGY: LINEAR Best Local Similarity GENERAL INFORMATION: CLASSIFICATION: ROSELAND USA STRANDEDNESS:

a

à

ZIP: 07068

COUNTRY: STREET: STATE:

COMPUTER:

TELEPHONE:

TELEFAX:

```
63 ----LRNIMNLVYVGNITIGTPPQRFQVVFDTGSSDLWVPSF-CTM--PACSAPVWFRQL 115
                                          67 IPEVLKNYMDAQYYGEIGIGTPPQCFTVVFDTGSSNLWVPSIHCKLLDIACWIHHKYNSD 126
                                                                                                                116 QSSTFQPTNKTFTTTYGSGSMKGFLAYDTVRI------GDLVSTDQPFGLSVVEY 164
                                                                                                                                                165 GLE--GRNYDGVLGLNYPNISFSGAIPIFDNLKNGGAISEPVFAFYLSK--NKOEGSVVM 220
                                                                                                                                                                                                                                                                                 187 GITFIAAKFDGILGMAYPRISVNNVLPVFDNLMQQKLVDQNIFSFYLSRDPDAQPGGELM 246
                                                                                                                                                                                                                                                                                                                                  221 PGGVDHQYYKGELNWIPLIEAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGR 280
                                                                                                                                                                                                                                                                                                                                                                                       247 LGGTDSKYYKGSLSYLNVTRKAYWQVHLDQVEVASGLTLCKEGCEAIVDTGTSLMVGPVD 306
                                                                                                                                                                                                                                                                                                                                                                                                                                        281 LVNNIHRLIRTRP-FDSKHYVSCFATKYLPSITFIINGIKYPMTARAYIFKDSRG---RC 336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             307 EVRELQKAIGAVPLIQGEYMIPCEKVSTLPAITLKLGGKGYKLSPEDYTLKVSQAGKTLC 366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              63 ----LRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLMVPSF-CTM---PACSAPVWFRQL 115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              67 IPEVLKNYMDAQYYGEIGIGTPPQCFTVVPDTGSSNLWVPSIHCKLLDIACWIHHKYNSD 126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    116 QSSTFQPTNKTFTITYGSGSMKGFLAYDTVRI-----GDLVSTDQPFGLSVVEY 164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              165 GLE--GRNYDGVLGLNYPNISFSGAIPIFDNLKNQGAISEPVFAFYLSK--NKQEGSSVVM 220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          221 FGGVDHQYYKGELNWIPLIEAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGR 280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     247 LGGTDSKYYKGSLSYLNVTRKAYWQVHLDQVEVASGLTLCKEGCEAIVDTGTSLMVGPVD 306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9 LALCLLAAPASALVRIPLHKFTSIRRTMSEVGGSVEDLIAKGP--VSKYSQAVPAVTEGP 66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4 IVILGEVAFSECIVKIPLRQVKTMRKTLSG-KNMLKNFLKEHPYRLSQISFRGSNLTIHP 62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ouery Match
30.7%; Score 617; DB 4; Length 412;
Best Local Smallarity 35.7%; Pred. No. 4.7e-78;
Matches 144; Conservative 76; Mismetches 153; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          HUMAN OSTEOCLAST-DERIVED CATHEPSIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   337 YSAFKENTV-RTSRETWILGDAFLRRYFSVFDRGNDRIGLARA 378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   367 LSGFMGMDIPPPSGPLWILGDVFIGRYYTVFDRDNNRVGFAEA 409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CURRENT APPLICATION NUMBER: US/08/798.096
CURRENT FILLING BATE: 1997-02-12
NUMBER OF SEQ ID NOS: 14
SOFTWARE: Patentin Ver. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 12, Application US/08798096
Patent No. 6387682
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Hastings, et al
TITLE OF INVENTION: HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FILE REFERENCE: PF107D2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 12
US-08-798-096-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-08-798-096-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEC ID NO 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         63 ----LRNIMNLVYVGNITIGTPPQEFQVVFDIGSSDLWVPSF-CTM--PACSAPVWFRQL 115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         67 IPEVLKNYMDAQYYGEIGIGTPPQCFTVVFDIGSSNEWVPSIHCKLLDIACWIHHKYNSD 126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         127 KSSTYVKNGTSFDIHYGSGSLSGYLSQDTVSVPCQSASSASALGGVKVERQVPGEATKQP 186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     165 GLE--GRNYDGVLGLNYPNISFSGAIPIFDNLKNQGAISEPVFAFYLSK--NKQEGSVVM 220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     187 GITFIAAKFDGILGMAYPRISVNNVLPVFDNIMQQKLVDQNIFSFYLSRDPDAQPGGELM 246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           221 FGGVDHQYYKGELNWIPLIEAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGR 280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           247 LGGTDSKYYKGSLSYLNVTRKAYWQVHLDQVEVASGLTLCKEGCEAIVDTGTSLMVGPVD 306
                                                                                                                                                                                                                                                                                                                                                                             30.7%; Score 617; DB 4; Length 412;
35.7%; Pred. No. 4.7e-58;
tive 76; Mismatches 153; Indels 30; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               116 QSSTFQPTNKTFTTTYGSGSMKGFLAYDTVRI-----GDLVSTDQPFGLSVVEY 164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 81 LVNNIHRLIRTRP-FDSKHYVSCFATKYLPSITFIINGIKYPMTARAYIFKDSRG---RC 336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      907 EVRELOKAIGAVPLIGGEYMIPCEKVSTLPAITLKLGGKGYKLSPEDYTLKVSQAGKTLC 366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4 IVLIGEVAFSECIVKIPLRQVKTMRKTLSG-KNMLKNFLKEHPYRLSQISFRGSNLTIHP 62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9 LALCLLAAPASALVRIPLHKFTSIRRIMSEVGGSVEDLIAKGP--VSKYSQAVPAVIEGP 66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                30.7%; Score 617; DB 4; Length 412; 35.7%; Pred. No. 4.7e-58;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Hastings, et al.
TITLE OF INVENTION: HUMAN OSTEOCLAST-DERIVED CATHEPSIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       337 YSAFKENTV-RISRETWILGDAFLRRYFSVFDRGNDRIGLARA 378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            367 LSGPMGMDIPPPSGPLWILGDVFIGRYYTVFDRDNNRVGFAEA 409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FILE REFERENCE: PP107D4
CURRENT APPLICATION NUMBER: US/08/915,095A
CURRENT FILING DATE: 1997-08-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 12, Application US/08915095A
Patent No. 6383793
TELECOMMUNICATION INFORMATION:
TELEPHONE: 404-873-8794
                                                TELEPAX: 404-873-8795
IPORATION FOR ED IN 0: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 412 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Patentin Ver. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches 144; Conservative
                                                                                                                                                                                                                                                                                            ORGANISM: Homo saplens
                                                                                                                                                                                                                                      MOLECULE TYPE: protein
                                                                                                                                                                                           single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity
                                                                                                                                                                                                                      linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQ ID NOS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GENERAL INFORMATION:
                                                                                                                                                                                                                                                                       ORIGINAL SOURCE:
                                                                                                                                                                                 STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-08-915-095A-12
                                                                                                                                                                                                                 POPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-08-915-095A-12
                                                                                                                                                                                                                                                                                                                       US-08-974-691-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LENGTH: 412
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOFTWARE: F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DRGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          윱
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                e
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
```

ä

Gaps

à

76; Mismatches 153; Indels 30; Gaps

Matches 144; Conservative

LALCLIAAPASALVRIPLHKFTSIRRTNSEVGGSVEDLIAKGP--VSKYSQAVPAVTEGP 66 4 IVLLGLVAFSECIVKIPLRQVKTMRKTLSG-KNMLKNFLKEHPYRLSQISFRGSNLTIHP 62

337 YSAFKENTV-RISRETWILGDAFLRRYFSVFDRGNDRIGLARA 378 HILL III HELLI TELLI

367 LSGFMGMDIPPPSGPLWILGDVFIGRYYTVFDRDNNRVGFAEA 409

APPLICANT: Hastings, et al. TITLE OF INVENTION: HUMAN OSTBOCLAST-DERIVED CATHEPSIN FILE REPERSINGE: PF107D3

Sequence 12, Application US/08798095A Patent No. 6423507

RESULT 13 US-08-798-095A-12

GENERAL INFORMATION:

CURRENT APPLICATION NUMBER: US/08/798.095A

NUMBER OF SEQ ID NOS: 14

Patentin Ver. 2.1

Homo sapiens Best Local Similarity

; ORGANISM: Home US-08-798-095A-12

LENGTH: 412

TYPE: PRT Query Match

SEQ ID NO 12

SOFTWARE:

Matches 144; Conservative

```
66 SKFMNTQYFGTIGLGTPPQNFTVVFDTGSSNLAVPSTRCHFFSL-AC----WFHHRFNPK 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   116 OSSTFOPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGL--EGRNYDG 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          21 ASSSERPNGTKFALQYGTGRLSGILSQDNLTIGGIHDAFVTFGEALWEPSLIFALAHFDG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241 PLTFIPVTIPAYWQVHMESVKVGTGLSLCAQGCSAILDTGTSLITGPSEEIRALNKAIGG 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301 YPPLNGOYPIQCSKTPTLPPVSFHLGGVWFNLTGQDYVIQDLQSDVGLCLLGFQALDIPK 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         64 RNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLAVPS----FCTMPACSAPVWFRQ----L 115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       174 VLGLNYPNISFSGAIPIFDNLKNQGAISEPVFAFYLSKNKQ--EGSVVMFGGVDHQYYKG 231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 23. ELNWIPLIEAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRT 291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      292 RPF-DSKHYVSCFATKYLPSITFIINGIKYPNTARATIFKDSR---GRCYSAFKENTV-R 346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       80; Mismatches 146; Indels 32; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5 VLIGLVAPSEC-IVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGSNLTIHPL 63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  11 LLIGNLEPERAKLIRVPLORIHLGHRIL---NPLNGW--EQLAELSRTSTSGGNPSFVPL 65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Match 29.8%; Score 598; DB 4; Length 419;
Local Similarity 34.8%; Pred. No. 5.5e-56;
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC computible
COMPUTER: IBM PC computible
COMPUTER: STSTER: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          347 TSRETWILGDAFLRRYFSVFDRGN----DRIGLARA 378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       361 PAGPLWILGDVFLGPYVAVFDRGDKNVGPRVGLARA 396
                                                                                                                                                                                                                                                                APPLICATION NUMBER: US 60/031,196
FILING DATE: 20-NOV-1996
                                                                                                                                                                                                                                                                                                                                                                  US 60/046, 126
                                                                                                                                            US/08/974.691
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 10, Application US/09705448
Patent No. 6432690
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Bruno, Sandra A.
Elsenboss, Laura A.
Fogliano, Michael
Cohan, Victoria L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      31,284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TELECOMMUNICATION INFORMATION:
TELEPHONE: 404-873-8794
                                                                                                                                                  APPLICATION NUMBER: US/08
FILING DATE: 20-NOV-1997
                                                                                                                                                                                                                                                                                                                                                                                           FILING DATE: 09-MAY-1997
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         INFORMATION FOR SEQ ID NO: 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LENGTH: 419 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME: Pabst, Patrea L. REGISTRATION NUMBER: 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEFAX: 404-873-8795
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                    PRIOR APPLICATION DATA:
APPLICATION NUMBER: (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TOPOLOGY: linear
MOLECULE TYPE: protein
                                                                                                                                                                                                                                              PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Xu, Honq
                                                                                                                                                                                                               CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-705-448-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches 138:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-08-974-691-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        63 ----LRNIMMLVYVGNITIGTPPQEFQVVFDTGSSDLWVPSF-CTM--PACSAPVWFRQL 115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      116 QSSTFQPTNKTFTITYGSGSMKGFLAYDTVRI------GDLVSTDQPFGLSVVEY 164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                165 GLE--GRNYDGVLGLNYPNISPSGAIPIFDNLKNQGAISEPVFAFYLSK--NKQEGSVVM 220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             187 GITFIAAKFDGILGMAYPRISVNNVLPVFDNLMQQKLVDQNIFSFYLSRDPDAQPGGELM 246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          221 FGGVDHQYYKGELNWIPLIEAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGFGR 280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 247 LGGTDSKYYKGSLSYLNVTRKAYWOVHLDOVEVASGLTLCKEGCEAIVDTGTSLMVGPVD 306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               281 LVNNIHRLIRTRP-FDSKHYVSCFATKYLPSITFIINGIKYPWTARAYIFKDSRG---RC 336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            307 EVRELQKAIGAVPLIQGEYMIPCEKVSTLPAJTLKLGGKGYKLSPEDYTLKVSQAGKTLC 366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         127 KSSTYVKNGTSFDIHYGSGSLSGYLSQDTVSVPCQSASSASALGGVKVERQVFGEATKQP 186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4 IVLLGLVAFSECIVKIPLRQVKTMRKTLSG-KNMLKNFLKEHPYRLSQISFRGSNLTIHP 62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9 LALCLLAAPASALVRIPLHKFTSIRRTMSEVGGSVEDLIAKGP--VSKYSQAVPAVTEGP 66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         30.7%; Score 617; DB 4; Length 412; 35.7%; Pred. No. 4.7e-58;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPICANT: Lin. Xin.i
APPICANT: Then, Johnson Control Cloning and Characterization of Napsin
TITLE OF INVENTION: Cloning and Characterization of Napsin
WINDER OF SEQUENCE, ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      76; Mismatches 153; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                E: Patrea L. Pabst
2800 One Atlantic Center, 1201 W. Peachtree
```

용

ð

Sequence 3, Application US/08974691 Patent No. 6225103

US-08-974-691-3

Keolsch, Gerald

GENERAL INFORMATION: APPLICANT: Keolsch

COMPUTER READABLE FORM:

30309-3450

Atlanta USA B

ADDRESSEE: COUNTRY:

STREET:

STREET: STATE:

13;

Wed Apr

```
116 QSSTFQPINKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGL--EGRNYDG 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          64 RNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLWVPS----PCTMPACSAPVWFRQ----L 115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             66 SKPMNTQYPGTIGLGTPPQNETVVPDTGSSNLAVPSTRCHFFSL-AC----WFHHRFNPK 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     174 VLGLNYPNISFSGAIPIFDNEKNQGAISEPVFAFYLSKNKQ--EGSVVMFGGVDHQYYKG 231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   232 ELNWIPLIEAGEWRVHMDRISMKRTVIACSDGCEALVH7GTSHIEGPGRLVNNIHRLIRT 291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 11 LLGALEPEBAKLIRVPLQRIHLGHRIL---NPLNGW--EQLAELSRTSTSGGNPSFVPL 65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5 VLLGLVAFSEC-IVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGSNLTIHPL 63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Onery Match Best Local Similarity 34.64; Score 594; DB 4; Length 419; Dest Local Similarity 34.68; Pred. No. 156-55; Mseches 138; Conservative 78; Mismatches 148; Indels 32;
PAULCANT: Bundman, Olya BARTIC PROFESSES TITLE OF INVENTION: HUMAN ASPARTIC PROFESSES FILE REFERENCE: PF-0458-1 CIP CONTEXTA TABLES TO TO TO TO THE TELEMENT TO THE TOWNERS: 2000-11-02
                                                                                                                                                                                                                                                                                                                   THE STREAM PROPERTY OF WARREN OF ALL 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; OTHER INFORMATION: 1906810, GenBank
US-09-705-448-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM: MUS MUSCULUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
```

ð

Search completed: April 2, 2003, 17:50:47 Job time : 31 secs

13;

ou:

```
Sequence 3, Appli
Sequence 737, App
Sequence 2, Appli
Sequence 2, Appli
Sequence 26, Appli
Sequence 26, Appli
Sequence 26, Appli
Sequence 26, Appli
                                                                                                                                                                                              APPLIANT APP
        Seguence 670,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  57 NLT-IHPLRNIMNLVYVGNITIGTPPQEEQVVEDTGSSDLWVPS-FCTMPACSAPVWFRQ 114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61 TLVDEQPLENYLDMEYEGTIGIGTPAQDFTVVFDTGSSNLWVPSVYCSSLACTNHNRFNP 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        115 LQSSTFQPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYG--LEGRNYD 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GVLGLNYPNISFSGAIPIFDNLKNQGAISEPVFAFYLSKNKQEGSVVMFGGVDHQYYKGE 232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           233 LNWIPLIEAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLI-RT 291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Green, SIATE CHESS, THE STATE URBATT AND COLOR CANCER REGILATED GINES CHILD STATES CHESS CHESSES CHILD STATES CHESSES CHILD STATES CHESSES CHILD STATES CHESSES CHILD STATES CHI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 8,
                                                                                                                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 2
Sequence 2
Sequence 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 MKWIVLLGLVAPSECIV-KIPLRQVKTMRKTLSGKNMLKNFLKEH---PYRLSQISPRGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 MKWILLIGLVALSECIMYKVPLIRKKSLRRTLSERGLIKDFLKKHNLNPARKYFPQWEAP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121 EDSSTVOSTSETVSITYGTGSNTGILGYDTVQVGGISDTNQIFGLSETEPGSFLYYAPPD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181 GILGLAYPSISSSGATPVFDNIWNGLVSQDLFSVYLSADDQSGSVVIFGGIDSSYYTGS
                                                                                                                                                                                                                                                                                                                   Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 388;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; Score 923.5; DB 10; Length
; Pred. No. 1e-81;
67; Mismatches 117; Indels
                                                                          ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 23, Application US/09215450
Patent No. US20020068278A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      46.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORGANISM: Homo sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
Matches 191; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-215-450-23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-215-450-23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LENGTH: 388
SEO ID NO 23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRT
a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 31. Marsel and a sequence 21. Marsel and a sequence 21. Application of the sequence 31. Application of the sequence 21. Application of the sequence 21. Application of the sequence 21. Application of the sequence 31. Application of the sequence 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 23, Appl
Sequence 31, Appl
Sequence 31, Appl
Sequence 32, Appl
Sequence 22, Appl
Sequence 13, Appl
Sequence 13, Appl
                                                                                                                                                                                                                                                                 Search time 19 Seconds
(without alignments)
1219.503 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pred. No. is the number of results predicted by chance to have a
core greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MKWIVLLGLVAFSECIVKIP.....RRYFSVFDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1. Kipp 1.2 (Front A.) (Front 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            6/ptodata/2/pubpaa/US60_PUBCOMB.pep:*
                                         GenCore version 5.1.4_p5_4578
                                                                                  Compugen Ltd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-50-9038-31
US-09-796-205-31
US-09-845-226-31
US-09-93-95-13-31
US-09-93-95-13-31
US-09-93-95-13
US-10-114-464-13
US-09-9470-9544-48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-10-114-464-12
US-09-789-919-44
US-09-964-899-11
US-09-215-450-26
US-10-094-080-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-215-450-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-215-450-25
US-09-953-956-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-09-470-954A-49
US-09-969-384-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-915-582-66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         248812 seqs, 61136040 residues
                                                                                  Copyright (c) 1993 - 2003
                                                                                                                                                                                              protein search, using sw model
                                                                                                                                                                                                                                                                 2, 2003, 17:43:35 ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Maximum Match 100%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Post-processing: Minimum Match 0%
                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-273-164-32
2008
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Listing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      length: 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BLOSUM62
                                                                                                                                                                                                                                                                         April
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
2444
24444
24444
24444
24444
24444
24444
24444
24444
24444
24444
2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Minimum DB seq
Maximum DB seq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        803
772.5
772.5
772.5
686.5
686.5
617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            574.5
544.5
544.5
542.5
521.5
443
                                                                                                                                                                                              OM protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          :eouenbeg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Database
```

Š.

```
SERREAL, INCHART. Tong, DOCTOR J. I.
APPLICART. Tong, OCCOR J. J.
APPLICART. Tong, OCCOR J. J.
APPLICART. Tong, OCCOR J. J.
APPLICART. TONG SEN, DETAIL ALLY
APPLICART. WOGSAN, DETAIL ALLY
APPLICART. WOGSAN, DETAIL ALLY
TILLE OF IMPRESSER. ORS. TONG
COURSEN PACIFICATION NUMBER: USPROF, 50.1A
GURBER PACIFICATION NUMBER: USPROF, 50.1A
GURBER PACIFICATION NUMBER: USPROF, 50.1A
292 RPFDSKHYVSCFATKYLPSITFIINGIKYPMTARAXIFKDSRGRCYSAFKENTVRT-SRE 350
                           101 ENSDGDMVVSCSAISSLPDIVFTINGVQYPVPPSAYILQ-SEGSCISGFQGMNLPTESGE 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Amino acids 2-5, 6-9, 13-20, 25-32, 65-67, 69-74, 79-87, 89-21, 99-106, 119-122, 150-116, 164-167, 168-187, 131-194, 196-199, 201-204, 210-214, 221-223, 258-262, 265-269, and 275-278 are Beta
                                                                                            151 TWILGDAFLRRYFSVFDRGNDRIGLA 376
                                                                                                                   360 LWILGDVFIRQYFTVFDRANNOVGLA 385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRIOR APPLICATION NUMBER: 09/604,608
PRIOR FILING DATE: 2000-06-27
PRIOR APPLICATION NUMBER: 60/168,060
PRIOR FILING DATE: 1999-11-30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR APPLICATION NUMBER: 60/177,836
PRIOR FILING DATE: 2000-01-25
PRIOR APPLICATION NUMBER: 60/178,368
PRIOR FILING DATE: 2000-01-27
                                                                                                                                                                                                                                                    Sequence 31, Application US/09795903A
Patent No. US20020164760A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRIOR APPLICATION NUMBER: 60/210,292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRIOR FILING DATE: 2000-06-08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NUMBER OF SEQ ID NOS: 31
SOFTWARE: Patentin Ver. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Strands
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pepsin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OTHER INFORMATION: 1
OTHER INFORMATION: 5
OTHER INFORMATION: A
OTHER INFORMATION: A
OTHER INFORMATION: A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OTHER INFORMATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OTHER INFORMATION
                                                                                                                                                                                                                             US-09-795-903A-31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LENGTH: 326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SOFTWARE: Pa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             OTHER
                                              g
                                                                                       ò
                                                                                                                                a
```

40.0%; Score 803; DB 9; Length 326; 50.3%; Pred. No. 4.2e-70; ive 54; Mismatches 99; Indels Best Local Similarity 50.3 Matches 161; Conservative Query Match

```
62 PLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLWVPS-FCTMPACSAPVWFROLOSSTF 120
6, Gaps
                                                                                                              5 PLENYLDMEYFGTIGIGTPAQDFTVVFDTGSSNLWVPSVYCSSLACTNHNRFNPEDSSTY 64
                                                                                                              g
                                                                                                                                                                   ð
```

g

239 IEAGEMBYHADRISHKRTVIACSDCCEALVHTGTSHIEGPGRLVNNIHRLI-FTRPPDSK 297 179 YPNISFSGAIPIFDNLKNQGAISEPVFAFYLSKNKQBGSVVMFGGVDHQYYKGELNWIPL 238 à g D

Whiteleast way, Jordan J. N.
APPLICANT LIA, MILL and
TITLE OF PROPERTION CHARLELLY ACTIVE PRoceedings the Memory and Methods
TITLE OF INVESTION CHARLELLY ACTIVE PRoceedings the Memory TITLE OF INVESTION CHARLE AND THE SEC 185 TVECYWOITVOSITMMGEAIACAEGCOAIVDEGISLLTGPTSPIANIOSDIGASENSDGD 244 298 HYVSCFATKYLPSITFIINGIKYPMTARAYIFKDSRGRCYSAFKENTVRT-SRETWILGD 356 245 MVVSCSAISSLPDIVFTINGVQYPVPPSAYILQ-SEGSCISGFQGMNLPTESGELWILGD 303 PRIOR FILMS DATE: 2000-06-27 PRIOR APPLICATION NUMBER: 60/16-000 PRIOR APPLICATION NUMBER: 60/17-36 PRIOR APPLICATION NUMBER: 60/17-36 PRIOR APPLICATION NUMBER: 60/17-36 PRIOR APPLICATION NUMBER: 60/17-36 PRIOR PLICATION NUMBER: 60/17-36 PRIOR PLICATION NUMBER: 60/17-36 PRIOR PLICATION NUMBER: 60/17-36 PRIOR PLICATION NUMBER: 60/10-220 PRIOR PLICATION NUMBER: 60/10-220 PRIOR PLICATION NUMBER: 60/10-220 PRIOR PLICATION DATE: 2000-05-60-60 PRIOR APPLICATION NUMBER: 09/604,608 Sequence 31, Application US/09796264 Patent No. US20020049303A1 357 AFLRRYFSVFDRGNDRIGLA 376 304 VFIRQYFTVFDRANNQVGLA 323 NUMBER OF SEQ ID NOS: 31 SOFTWARE: Patentin Ver. 2.1 TYPE: PRT ORGANISM: Homo sapiens OTHER INFORMATION: GENERAL INFORMATION US-09-796-264-31 SEQ ID NO 31 1.ENGTH: 326 PRATITRE ç à e ò

Marios acidos 281-282, 286-380, 310-315, and 319-315, and 319-324 are Beta strandas and 319-314, 225-334, and 319-315, and Amino acids 2-5, 6-9, 13-20, 25-32, 65-67, 69-74, 79-87, 89-31, 99-166, 119-122, 155-114, 164-167, 180-183, 131-194, 196-199, 201-204, 210-214, 211-223, 258-262, 265-269, and 275-278 are Beta Strands OTHER INFORMATION: INFORMATION: INFORMATION: OTHER INFORMATION: OTHER INFORMATION: OTHER INFORMATION: INFORMATION: OTHER INFORMATION: OTHER INFORMATION: OTHER INFORMATION OTHER INFORMATION OTHER INFORMATION US-09-796-264-31 OTHER OTHER OTHER

ö Ouery Match 40.0%; Score 803; DB 10; Length 326; Best Local Similarity 50.3%; Pred. to 4.2e-70; Metches 161; Conservative 54; Mismatches 99; Indals Matches 161; Conservative 54; Mismatches 99; Indals 62 PLRNIMNLVYVGNITIGTPPOEFOVVFDTGSSDLWVPS-FCTMPACSAPVWFROLOSSTF 120

Gaps

179 YPNISFSGAIPIFDNLKNOGAISEPVFAFYLSKNKOEGSVVMFGGVDHQYYKGELNWIPL 238 125 YPSISSSGATPVFDNIWNQGLVSQDLFSVYLSADDDQSGSVVIFGGIDSSYYTGSLNWVPV 184 a

239 IEAGEWRVHMDBISMKRTVIACSDGCEALVHTGTSHIBGPGRLVNNIHRLI-RTRPFDSK 297

6 6 6

```
185 TVECYWQITVDSITMNGEAIACAEGCQAIVDTGTSLLTGPTSPIANIQSDIGASENSDGD 244
                                                298 HYVSCFATKYLPSITFIINGIKKPMTARAYIFKDSRGRCYSAPKENTVRT-SRETWILGD 356
                                                                        245 MVVSCSAISSLPDIVFINGVQYPVPPSAYILQ-SEGSCISGFQGMKLPTESGELWILGD 303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              60 IHPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLWVPS-FCTMPACSAPVWFRQLQSS 118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               67 KEPLINYLDMEYFGTISIGSPPONFTVIFDTGSSNLWVPSVYCTSPACKTHSRFQPSQSS 126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          119 TFOPTHWTFTITYGSGSMKGFLAYDTVRIGDLWSTDOPFGLSVVEYG -- LEGRNYDGVLG 176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           127 TYSOPGOSFSIQMGTGSLSGIIGADOVSVEGLTVVGQQFGESVTEPGQTFVDAEFDGILG 186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      177 LNYPNISPSGAIPIFDNLKNGGAISEPVFAFYLSKNKQ--EGSVVMFGGVDHQYYKGELN 234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       187 LGYPSLAVGGVTPVFDNMMAQNLVDLPMFSVYMSSNPEGGAGSELIFGGYDHSHFSGSLN 246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   235 WIPLIEAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTRPF 294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   247 WVPVTKQAYWQIALDNIQVGGTVMFCSEGCQAIVDTGTSLITGPSDKIKQLQNAIGAAPV 306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               295 DSKHYVSCFATKYLPSITFIINGIKYPMTARAYI --- - PKDSRGRCYSAFKENTVR-TSRE 350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               307 DGEYAVECANLNVMPDVTFTINGVPYTLSPTAYTLLDFVDGMQFCSSGFQGLDIHPPAGP 366
                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4 IVLLGLVAPSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGS----NLT 59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9 LVLLELGEAGGSLHRVPLRRHPSLKKKLRARSQLSEFWKSH--NLDMIQFTESCSMDQSA 66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; Score 772.5; DB 10; Length 396;
; Pred. No. 5.1e-67;
72; Mismatches 147; Indels 15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Hastings, et al.
TITLE OF INVENTION: HUMAN OSTEOCLAST-DERIVED CATHEPSIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOFTWARE: FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CURRENT APPLICATION NUMBER: US/09/953,956
CURRENT FILING DATE: 2001-09-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           351 TWILGDAFLRRYFSVPDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            367 LWILGDVFIROFYSVPDRGNNRVGLAPAV 395
                                                                                                                                                                                                                                                                                    US-09-215-450-22

; Sequence 22, Application US/09215450

; Patent No. US20020068278A1

; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 13, Application US/09953956
Patent No. US20020072107A1
GENERAL INFORMATION:
                                                                                                                                            357 AFLRRYFSVFDRGNDRIGLA 376
                                                                                                                                                                                        304 VFIROYFTVFDRANNOVGLA 323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      39.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches 155; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FILE REFERENCE: PF107D2D1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NUMBER OF SEQ ID NOS: 27
                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Glese, Klaus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-09-215-450-22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-953-956-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQ ID NO 22
LENGTH: 396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 6
                                                ö
                                                                                            g
                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        298 HYVSCFATKYLPSITFIINGIKYPNTARAYIFKDSRGRCKSKAFKENTVRT-SRETWILGD 356
                                                                                            62 PERNIMNLVYVGNITIGTPPOEPOVVFDTGSSDLWVPS-FCTMPACSAPVWFROLOSSTF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        65 OSTSETVSITYGTGSWIGILGYDTVQVGGISDTNQ1FGLSETERFGSFLYAAPPDGILGLA 124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121 OPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVBYG--LEGRNYDGVLGLN 178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            179 YPHISFSGAIPIFDNLKNQGAISEPVFAFYLSKNKQEGSVVMFGGVDHQYYKGELNWIPL 238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        239 IEAGEWRVHMDRISNKRTVIACSDGCBALVHTGTSHIEGPGRLVNNIHRLI-RTRPFDSK 297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5 PLBNYLDMEYFGTIGIGTPAQDFTVVFDTGSSNLMVPSVYCSSLACTNHNRFNPEDSSTY 64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  40.0%; Score 803; DB 10; Length 326;
50.3%; Pred. No. 4.2e-70;
                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Tang, Jordan J.M.
APPLICANT: Tang, Jordan J.M.
APPLICANT: Ghosp, Lin
APPLICANT: Ghosp, Arun K,
TITLE OF INVENTION: Inhibitors of Memapsin 2 and Use Thereof
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   99; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                54; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FILE REFERENCE: OMRF 182
CURRENT APPLICATION NUMBER: US/09/845,226
CURRENT FILING DATE: 2001-04-30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CURRENT FILING DATE: 2001-04-30
PRIOR APPLICATION NUMBER: 09/603,713
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR APPLICATION NUMBER: 60/168,060
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR FILING DATE: 1999-11-30
PRIOR APPLICATION NUMBER: 60/177,836
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR FILING DATE: 2000-01-25
PRIOR APPLICATION NUMBER: 60/178,368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR FILLING DATE: 2000-01-27
PRIOR APPLICATION NUMBER: 60/210,292
                                                                                                                                                                                                                                                                                                                           Sequence 31, Application US/09845226
Patent No. US20020115600A1
                                                                                                                                                           357 AFLRRYPSVFDRGNDRIGLA 376
                                                                                                                                                                                                           304 VFIROYFTVFDRANNOVGLA 323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR FILING DATE: 2000-06-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRIOR FILING DATE: 2000-06-08
NUMBER OF SEQ ID NOS: 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     : Patentin Ver. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OTHER INFORMATION:
OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .09-845-226-31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   161;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LENGTH: 326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOFTWARE: Pa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURE
```

8 8 8

Page

```
60 IHPLRNIMNLVYVGNITIGTPPQEFQVVEDTGSSDLWVPS-FCTMPACSAPVWFRQLQSS 118
                                                                                  67 KEPLINYLDNEYFGTISIGSPPONFTVIFDTGSSNLWPSVYCTSPACKTHSRFQPSQSS 126
                                                                                                                                                                                                                                  119 TFQPTNKTFT1TYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYG--LEGRNYDGVLG 176
                                                                                                                                                                                                                                                                                                          127 TYSQPQQFFSIQYGTGSLSGIIGADQVSVEGLTVVGQQFGESVTEPGQTFVDAEPDGILG 186
                                                                                                                                                                                                                                                                                                                                                                                                                                      177 LNYPNISFSGAIPIFDNLKNQGAISEPVFAFYLSKNKQ--EGSVVMFGGVDHQYYKGELN 234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   23 WIPLIEAGEWRVHADRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTRPF 294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       295 DSKHYVSCPATKYLPSITFIINGIKYPMTARAYI---FKDSRGRCYSAFKENTVR-TSRE 350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         307 DGEYAVECANLNVMPDVTFTINGVPYTLSPTAYTLLDFVDGMQFCSSGFQGLDIHPPAGP 366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              58 LTIHPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLWVPS-FCTMPACSAPVWFRQLQ 116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1.7 SSTFOPINKTFTITYGSGSMKGFLANDIVRIGDLVSTDOPFGLSVVEYGLE--GRNYDGV 174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               175 LGLNYPNISFSGAIPIFDNLKNQGAISEPVFAFTLSKNK-QEGSVVMFGGVDHQYYKGEL 233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            180 MGLAYPALSVDEATTAMQGMYQEGALISPVFSVYLSNQQGSSGGAVVFGGVDSSLYTGQI 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   234 NWIPLIEAGEWRVHMDRISMKRTVIA-CSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTR 292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 MKWNVVLVCLQLLEAAVVKVPLKKFSIRETMKEKGLLGEFLRTHKYDPAWKYRFGDLS 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 MKM--IVLLGLVAFSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLS-QISFRGSN 57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  187 LGYPSLAVGGVTPVPDNMMAQNLVDLPMFSVYMSSNPEGGAGSELIFGGYDHSHFSGSLN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 9; Length 388;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 34.2%; Score 686.5; DB 9; Best Local Similarity 37.9%; Pred. No. 1.2e-58; Matches 149; Conservative 81; Mismatches 142;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CURRENT APPLICATION NUMBER: US/09/470,954A CURRENT FILING DATE: 1999-12-22 NUMBER OF SEQ ID NOS: 49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                351 TWILGDAFLRRYPSVPDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              367 LWILGDVFIRQFYSVFDRGNNRVGLAPAV 395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ASPARTYL PROTEASES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 48, Application US/09470954A, Patent No. US20020169304A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence Seq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ) OTHER INFORMATION: 91658286
US-09-470-954A-48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FILE REFERENCE: PC-0008 US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PERL Program
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Tang, Y. To
APPLICANT: Yue, Henry
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-09-470-954A-48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEO ID NO 48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURE: -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       YPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SOFTWARE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LENGTH:
                                                                                                                           용
                                                                                                                                                                                                                                                                                                                               6
                                                                                                                                                                                                                                                                                                                                                                                                                                      ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            용
                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IHPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLWVPS-FCTMPACSAPVWFROLOSS 118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       KEPLINYLDMEYFGTISIGSPPQNFTVIPDTGSSNLWVPSVYCTSPACKTHSRPQPSQSS 126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             119 TFQPTNKTFTITYGSGSMKGFLAYDFVRIGDLVSTDQPFGLSVVEYG--LEGRNYDGVLG 176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         127 TYSQPGQSFSIQYGTGSLSGIIGADQVSVBGLTVVGQQFGESVTEPGQTFVDAEFDGILG 186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                177 LNYPNISFSGAIPIFDNLKNGGAISEPVFAFYLSKNKQ--EGSVVMFGGVDHQYYKGELN 234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              235 WIPLIEAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTRPF 294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           247 WVPVTKQAYWQIALDNIQVGGTVMFCSEGCQAIVDTGTSLITGPSDKIKQLQNAIGAAPV 306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DSKHYVSCFATKYLPSITFIINGIKYPMTARAYI---PKDSRGRCYSAFKENTVR-TSRE 350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                307 DGEYAVECANLNVMPDVTFTINGVPYTLSPTAYTLLDFVDGMQFCSSGPGGLDIHPPPAGP 366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4 IVLLGLVAPSECIVKIPLROVKTMRKTLSGKNMLKNFLKEHPYRLSOISFRGS----NLT 59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9 LVILELGEAQGSLHRVPLRRHPSLKKKLRARSQLSEFWKSH--NLDMIQFTESCSMDQSA 66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4 IVLIGLVAFSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGS----NLT 59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9 IVILIELGEAGGSLHRVPLRRHPSLKKKLRARSOLSEFWKSH--NLUMIOFTESCSMDOSA 66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     38.5%; Score 772.5; DB 12; Length 396; 39.8%; Pred, No. 5.1e-67;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  18.54; Score 772.5; DB 10; Length 396; Similarity 39.8; Pred. No. 5.1e-67; Conservative 72; Mismatches 147; Indels 15; 5; Conservative 72; Mismatches 147; Indels 15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPICANT: MARILDAY OF A BANCHERSTS TITLE OF INVESTIGN STREAMS OF A BANCHERSTS TITLE OF INVESTIGNS HUMAN CONTROLLAST DESCRIPTION OF A BANCHERST OF A BANCHERS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  72; Mismatches 147;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         351 TWILGDAFLRRYFSVFDRGNDRIGLARAY 379
PRIOR APPLICATION NUMBER: 09/219,441
PRIOR FILLING DATE: 1998-12-23
NUMBER OF SEQ ID NOS: 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Seguence 13, Application US/10114464
Patent No. US20020142448A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR FILING DATE: 1994-03-08
NUMBER OF SEQ ID NOS: 14
                                                                                                                                                                    SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches 155; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                        ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Best Local Similarity
Matches 155; Conserve
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                      18-09-953-956-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                JS-10-114-464-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-10-114-464-13
                                                                                                                                                                                                                                                                                                                               TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
```

12

Indels

```
63 ----LRNIMNLVYVGNITIGTPPQEFQVVFDIGSSDLAVPSF-CTM--PACSAPVWFRQL 115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    67 IPEVLKNYMDAQYYGEIGIGTPPQCFTVVFDTGSSNLMVPSIHCKLLDIACWIHHKYNSD 126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   116 QSSTFQPINKTFTITYGSGSMKGFLAYDTVRI------GDLVSTDQPFGLSVVEY 164
    SOFTWARE: FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Duery Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        q
                                                                                                                                                                                                                                                                                                                                                                                  qq
                                                                                                                                                                                                                                                                                                                                                                                                                               õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                e
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         293 PPDSKHY----VSCFATKYLPSITFIINGIKYPWTARAYIPKDSRGRCYSAFKENTVRTS 348
293 PFDSKHY----VSCFATKYLPSITFILNGIKYPWTARAYIFKDSRGRCYSAFKENTVRTS 348
                               297 GAQEDEXGQFLVNCNSIQNLPSLTFIINGVEFPLPPSSYILSNN-GYC-TVGVEPTYLSS 354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             58 LTIHPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLAVPS-FCTMPACSAPVWFRQLQ 116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   175 LGLNYPNISFSGAIPIFDNLKNQGAISEPVFAFYLSKNK-QEGSVVMFGGVDHQYYKGEL 233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    234 NWIPLIEAGEWRVHMDRISHKRTVIA-CSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTR 292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   117 SSTFQPTNKTFTITYGSGSHKGFLAYDTVRIGDLVSTDQPFGLSVVEYGLE--GRNYDGV 174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       240 YWAPVTQELYWQIGIEEFLIGGQASGWCSEGCQAIVDTGTSLLTVPQQYMS---ALLQAT 296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 297 GAQEDEYOQFLVNCNSIQNLPSLTFIINGVEFPLPPSSYILSNN-GYC-TVGVEPTYLSS 354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                       TITLE OF INVENTION: METASTATIC BREAST AND COLON CANCER REGULATED GENES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 MKW--IVLLGLVAFSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLS-QISFRGSN 57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 MKWMVVLVCLQLLEAAVVKVPLKKFKSIRFTMKEKGLLGEFLRTHKYDPAWKYRFGDLS 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE OF INVENTION: METASTATIC BREAST AND COLON CANCER REGULATED GENES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 388;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              81; Mismatches 142; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 34.2%; Score 686.5; DB 10
37.9%; Pred. No. 1.2e-58;
                                                                                     349 RE---TWILGDAFLRRYFSVFDRGNDRIGLARA 378
                                                                                                            355 ONGOPLWILGDVFLRSYYSVYDLGNNRVGFATA 387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              349 RE---TWILGDAFLRRYFSVFDRGNDRIGLARA 378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       355 QNGOPLWILGDVFLRSYYSVYDLGNNRVGFATA 387
                                                                                                                                                                                                                                                                                                                                                                             FILE REFERENCE: 1451.100 / 210030.447
CURRENT APPLICATION NUMBER: US/09/215,450
CURRENT FILING DATE: 1998-12-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQ ID NOS: 27
SOFTWARE: FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILE REFERENCE: 1451.100 / 210030.447
CURRENT APPLICATION NUMER: US/09/215,450
CURRENT FILING DATE: 1998-12-17
UNHER OF SEQ ID NOS: 27
                                                                                                                                                                                                                                               Sequence 24, Application US/09215450
Patent No. US20020068278A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 25, Application US/09215450
Patent No. US20020068278A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GENERAL INFORMATION:
APPLICANT: Glese, Klaus
APPLICANT: Xin, Hong
                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
APPLICANT: Giese, Klaus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORGANISM: Homo sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Best Local Similarity
Matches 149; Conserva
                                                                                                                                                                                                                                                                                                                                APPLICANT: Xin, Hong
                                                                                                                                                                                                                        JS-09-215-450-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    JS-09-215-450-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-215-450-25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQ ID NO 24
LENGTH: 388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                    용
                                                                                     à
                                                                                                                              a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 e
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
```

```
Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           63 ----LRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLWVPSF-CTM--PACSAPVWFRQL 115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      67 IPEVLKNYMDAQYYGEIGIGTPPQCPTVVPDTGSSNLWVPSIHCKLLDIACWIHHKYNSD 126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    116 QSSTFQPTNKTFTITYGSGSMKGFLAYDTVRI------GDLVSTDQPFGLSVVEY 164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               127 KSSTYVKNGTSFDIHYGSGSLSGYLSQDTVSVPCQSASSASALGGVKVERQVFGEATKOP 186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 165 GLE--GRNYDGVLGLNYPNISFSGAIPIFDNLKNQGAISEPVFAFYLSK--NKQEGSVVM 220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            187 GITFIAAKFDGILGMAYPRISVNNVLPVFDNLMQQKLVDQNIFSPYLSRDPDAQPGGELM 246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          221 FGGVDHQYYKGELNWIPLIEAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGR 280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         247 LGGTDSKYYKGSLSYLNVTRKAYWQVHLDQVBVASGLTLCKBGCEAIVDYGTSLAVGPVD 306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       281 LVNNIHRLIRTRP-FDSKHYVSCFATKYLPSITFIINGIKYPWTARATIFKDSRG---RC 336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | | :: | :: | | :: | :: | | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: | :: |
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4 IVLLGLVAPSECIVKIPLRQVKTMRKTLSG-KNMLKNFLKEHPYRLSQISFRGSNLTIHP 62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9 LALCLIAAPASALVRIPLHKFTSIRRIMSEVGGSVEDLIAKGP--VSKYSQAVPAVTEGP 66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      30;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 412;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    30.7%; Score 617; DB 10; Length 41.35.7%; Pred, No. 7.3e-52; ive 76; Mismatches 153; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                367 LSGFMGMDIPPPSGPLWILGDVFIGRYTVFDRDNRVGFAEA 409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             337 YSAFKENTV-RTSRETWILGDAFLRRYFSVFDRGNDRIGLARA 378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches 144; Conservative
                                                                                                                                                                                                                                                                          ORGANISM: Homo sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                         US-09-215-450-25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-953-956-12
                                                                                               LENGTH: 412
SEQ ID NO 25
                                                                                                                                                                                              TYPE: PRT
```

11;

TITLE OF INVENTION: HUMAN OSTEOCLAST-DERIVED CATHERSIN FILE REFERENCE: PF107D2D1 CURRENT APPLICATION NUMBER: US/09/953,956 CURRENT FILING DATE: 2001-09-18 PRIOR APPLICATION NUMBER: 09/219,441 Sequence 12, Application US/09953956 Patent No. US20020072107A1 PRIOR FILING DATE: 1998-12-23 APPLICANT: Hastings, et al SOFTWARE: Patentin Ver. 2. NUMBER OF SEQ ID NOS: 14 ; ORGANISM: Homo sapiens US-09-953-956-12 GENERAL INFORMATION: SEQ ID NO 12

4 IVLLGLVAFSECIVKIPLRQVKTMRKTLSG-KNMLKNFLKEHPYRLSQISFRGSNLTIHP 62 9 LALCLLAAPASALVRIPLHKFTSIRRTMSEVGGSVEDLIAKGP - VSKYSQAVPAVTEGP 66 30: Length 412; 76; Mismatches 153; Indels 30.7%; Score 617; DB 10; 35.7%; Pred. No. 7.3e-52; Matches 144; Conservative Best Local Similarity

11)

a Q ò a ò

à

```
TITLE OF INVENTION: GENERAL THAY REGULATE HEMATOPLETIC BLOOD FORMING STEM TITLE OF INVENTION: CELLS AND USES THERROF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121 ASSSFRPNGTKFA10yGGGRLSGILSODNLTIGGIHDAFVFFGBALMEPSLIFALAHFDG 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  301 YPFLNGQYFIQCSKTPTLPPVSFHLGGVWFNLTGQDYVIKILQSDVGLCLLGFQALDIPK 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  64 RNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLAVPS----FCTMPACSAPVWFRQ----L 115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        66 SKFMNTQYFGTIGLGTPPQNFTVVFDTGSSNLAVPSTRCHFFSL-AC----WFHHRFNPK 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  116 OSSTFOPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDOPFGLSVVEYGL--EGRNYDG 173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          174 VLGLNYPNISFSGAIPIFDNLKNQGAISEPVFAFYLSKNKQ--EGSVVMFGGVDHQYYKG 231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             18.1 ILGLGFPTLAVGGVQPPLDAMVEGGLLEKPVFSPYLNRDSEGSDGGELVLGGSDPAHYVP 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                232 BLNWIPLIEAGEWRVHMDRISMKRTVIACSDGCBALVHTGTSHIEGPGRLVNNIHRLIRT 291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241 PLTFIPVIIPAYWOVHMESVKVGTGLSLCAOGCSAILDTGTSLITGPSEEIRALNKAIGG 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               292 RPF-DSKHYVSCPATKYLPSITFIINGIKYPMTARAYIFK---DSRGRCYSAFKENTV-R 346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5 VLLGLVAFSEC-IVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGSNLTIHPL 63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                11 LLLGNLEPEBAKLIRVPLORIHLGHRIL---NPLNGW--BOLAELSRTSTSGGNPSFVPL 65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GENERAL INFORMATION:
TINEOR THEORY AND A CONTROL OF THE OFFICE OF THE OFFICE OFFI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              29.6%; Score 594; DB 10; Length 419; 34.8%; Pred, No. 1.3e-49; Live 78; Mismatches 148; Indels 32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    347 ISRETWILGDAFLRRYFSVFDRGN----DRIGLARA 378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             361 PAGPLWILGDVFLGPYVAVFDRGDKNVGPRVGLARA 396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CURRENT APPLICATION NUMBER: US/09/964,899
CURRENT FILING DATE: 2001-09-27
PRIOR APPLICATION NUMBER: 60/236,893
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NUMBER OF SEQ ID NOS: 53
SOFTWARE: FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                   CURRENT APPLICATION NUMBER: US/09/789,919
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIOR APPLICATION NUMBER: 60/298,309
PRIOR FILING DATE: 2001-06-14
                                                                                                                               Sequence 44, Application US/09789919
Patent No. US20020064855A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 11, Application US/09964899
Patent No. US20020174446A1
                                                                                                                                                                                                                                                                                                                                                                                                                              CURRENT FILING DATE: 2001-02-21
NUMBER OF SEQ ID NOS: 96
SOFTWARE: Patentin Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR FILING DATE: 2000-09-29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches 138; Conservative
                                                                                                                                                                                                                                                                                                                                                                  FILE REFERENCE: 2275-1-005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FILE REFERENCE: 4-31612 A
                                                                                                                                                                                                                                   APPLICANT: Lemischka, Ihon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CONCANISM: Mus musculus
US-09-789-919-44
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
                                                                                                                                                                Patent No. US2002006
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 14
US-09-964-899-11
                                                                  RESULT 13
US-09-789-919-44
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LENGTH: 419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEC ID NO 44
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEC ID NO 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         용
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8
165 GLE--GRNYDGVLGLNYPNISFSGAIPIFDNLKNOGAISEPVFAFYLSK--NKQEGSVVM 220
                                                                                                                                                         187 GITFIAAKFDGILGMAYPRISVNNVLPVFDNLMQQKLVDQNIFSFYLSRDPDAQPGGELM 246
                                                                                                                                                                                                                     221 FGGVDHQYYKGELNWIPLIENGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGR 280
                                                                                                                                                                                                                                                                                               247 LGGTDSKYYKGSLSYLNVTRKAYWQVHLDQVEVASGLTLCKEGCEAIVDTGTSLMVGPVD 306
                                                                                                                                                                                                                                                                                                                                                                  281 LVNNIHRLIRTRP-FDSKHYVSCFATKYLPSITFIINGIKYPMTARAYIFKDSRG---RC 336
                                                                                                                                                                                                                                                                                                                                                                                                                              307 EVRELQKAIGAVPLIQGEYMIPCEKUSTLPAITLKLGGKGYKLSPEDYTLKVSQAGKTLC 366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ----ERNIMNLVYVGNITIGTPPOEFQVVFDTGSSDLWVPSF-CTM--PACSAPVWFRQL 115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          67 IPEVLKNYMDAQYYGEIGIGTPPQCFTVVFDTGSSNLWVPSIHCKLLDIACWIHHKYNSD 126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    116 QSSTFQPTNKTFTITYGSGSMKGFLAYDTVRI------GDLVSTDQPFGLSVVEY 164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            165 GLE--GRNYDGVLGLNYPNISFSGAIPIFDNLKNOGAISEPVFAFYLSK--NKOEGSVVM 220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  221 FGGVDHQYYKGELNWIPLIEAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIBGPGR 280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              247 LGGTDSKYYKGSLSYLNVTRKAYWQVHLDQVEVASGLTLCKEGCEAIVDTGTSLMVGPVD 306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 281 LVNNIHRLIRTRP-FDSKHYVSCFATKYLPSITFIINGIKYPMTARAYIFKDSRG---RC 336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EVRELOKAIGAVPLIQGEYMIPCEKVSTLPAITLKLGGKGYKLSPEDYTLKVSQAGKTLC 366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            30; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4 IVLLGLVAFSECIVKIPLRQVKTMRKTLSG-KNMLKNFLKEHPYRLSQISFRGSNLTIHP 62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9 LALCLIAAPASALVRIPLHKFTSIRRTMSEVGGSVEDLIAKGP--VSKYSQAVPAVTEGP 66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 412;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         30.7%; Score 617; DB 12; Length 41
35.7%; Pred. No. 7.3e-52;
Live 76; Mismatches 153; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 337 YSAFKENTV-RISRETWILGDAFLRRYPSVFDRGNDRIGLARA 378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Hastings, et al.
TITLE OF INVENTION: HUMAN OSTECCLAST-DERIVED CATHEPSIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      337 YSAFKENTV-RISRETWILGDAFLRRYFSVFDRGNDRIGLARA 378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   367 LSGFMGMDIPPPSGPLWILGDVFIGRYTTVFDRDNNRVGFAEA 409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CURRENT APPLICATION NUMBER: US/10/114,464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR APPLICATION NUMBER: 08/208,007
PRIOR FILING DAFE: 1994-03-08
NUMBER OF SED ID NOS: 14
SOFFWARE: PATENTIN VET. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CURRENT FILING DATE: 2002-04-03
PRIOR APPLICATION NUMBER: 08/553,125
PRIOR FILING DATE: 1995-11-07
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 12, Application US/10114464
Patent No. US20020142448A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   144; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PILE REFERENCE: PF107D5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity
Matches 144; Conserva
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            JS-10-114-464-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-10-114-464-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LENGTH: 412
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQ ID NO 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: PRT
```

g

à à

à 융 8 à 8

13;

```
186 ML--AEFDGVVGMGFIEQAIGRVTPIFDNIISQCVLKEDVFSFYYNRDSENSQSLGGGIV 243
165 GLEGRNYDGVLGLNYPNISFSGAIPIFDNLKNGGAISEPVFAFYL---SKNKOE-GSVVM 220
                                    a
                                                                             ò
                                                                                                                  a
                                                                                                                                       12;
                                                                                              28.6%; Score 574.5; DB 9; Length 433; 34.9%; Pred, No. 1.1e-47;
                                             ORGANISM: Homo Sapien
                                                                                                  Query Match
Best Local Similarity
                                                         US-09-964-899-11
LENGTH: 433
TYPE: PRT
```

64 RNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLWVPSFCTMPAC---SAPVW----FRQLQ 116 31; Gaps 6 LIGLVAFSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQIS--FRGSNLTIHPL 63 29 LLNVEPSGATLIRIPLHRVOPGRRIL---NLLRGW--REPAELPKLGAPSPGDKPIFVPL 83 71; Mismatches 155; Indels Matches 138; Conservative 윰 용

348 SRETWILGDAFLRRYFSVPDRG----NDRIGLARA 378

APPLICANT: Glese, Klaus GENERAL INFORMATION:

LENGTH: 406 SEQ ID NO 26 TYPE: PRT

27.1%; Score 544; DB 10; Length 406; 33.1%; Pred. No. 9e-45; tive 79; Mismatches 148; Indels 48 Ouery Match Best Local Similarity Matches 136; Conserval

Gaps 48; Conservative g

14:

109 PVWFRQLQSSTFQPTNKTFT1TYGSGSMKGFLAYDTVRIGDLVSTDQPFG----LSVVEY 164

127 HKLEDASDSSYKHNGTEL/LRYSTGTVSGELSODIITVGGITVT-OMFGEVTEMPALPF 185

84 SNYRDVQYFGEIGLGTPPQNFTVAFDTGSSNLWVPS----RRCHFFSVPCWLHHRFDPKA 139

117 SSTFOPTNKTFT1TYGSGSMKGFLAYDTVRIGDLVSTDOPFGLSVVEYGL--EGRNYDGV 174

8 g ò g ò

ò

ò 윱 293 PEDSKHY-VSCFATKYLPSITFIINGIKYPMTARAYIPKDSRG---RCYSAFKENTV-RT 347

Sequence 26, Application US/09215450 Patent No. US20020068278A1 RESULT 15 US-09-215-450-26

PRICIONE: XII., Rengalistico i indicatorio in transferio de control control control in transferio in NUMBER OF SEQ ID NOS: 27 SOFTWARE: FastSEQ for Windows Version 3.0

ORGANISM: Homo sapien US-09-215-450-26

> à 윱

> ò g à

336 CYSAFKENTVR-----TSRETWILGDAFLRRYFSVFDRGNDRIGLARA 378

Search completed: April 2, 2003, 17:48:36 Job time : 20 secs

Pending Nucleic Acid and/or Pending Amino Acid database searches now generate two sets of results. These databases were split into to two parts to reduce the time needed to update the databases daily. The split freed up more machine time for processing searches.

Searches run against the Nucleic Acid Pending database produce two sets of results, with the extensions, rnpm and rnpn Searches run against the Amino Acid Pending database produce two sets of results, with the extensions, rapm and rapn

The Pending database search results should not be left in the case because they contain data that is confidential.

searched:

on:

dun

Detabase

```
sequence (2, App. Sequence (2,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Robberts, R. Michael
APPLICANT: Green, Onderhan
PREJICANT: ASSOCIATIONS AND METHODS FOR EARLY PREGNANCY DIAGNOSIS
TITLE OF FUNDERTORS COMPOSITIONS AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 MKWIVLLGLVAFSECIVKIPLROVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Seguence 2
Seguence 6
               edneuce
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 379;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10.00 (10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             100.0%; Score 2008; DB 16;
100.0%; Pred. No. 5.3e-208;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-791-537-64506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US/09/273,164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        THIS REVERENCE: UNROGOING VORMOGING PROPERTY OF STREAM PROPERTY OF STR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 32, Application US/09273164 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOFTWARE: Patentin Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Best Local Similarity 100.0
Matches 379; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3380
3373
3373
3373
3373
3373
3373
3373
                                                                                                                                                                                                                                                                                                              ; ORGANISM: bovidae
US-09-273-164-32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-273-164-32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQ ID NO 32
LENGTH: 379
1571.5
1559.5
1559.5
1559.5
1559.5
                                                                                                                                                                                                                                                                              553
                                                                                                                                                                                                                                                                                                              1508.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1459.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1450.5
1449.5
1449.5
1430.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1511.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: PRT
                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 32, Appl
Sequence 75815, A
Sequence 32, Appl
Sequence 42, Appl
Sequence 42, Appl
Sequence 46, Appl
                                                                                                                                                                                                                                                                      April 2, 2003, 17:41:56; Search time 145 Seconds (without alignments) 1685,199 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pred. Mo. is the number of results predicted by chance to have a
core greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 MKWIVLIGLVAFSECIVKIP.......RRYFSVFDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Coll 2, (1970) A. (1970) A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Capi 2. 6/prodate J. (1995 g. 2048. pept. capi. 2. 6/prodate J. (1995 g. 2048. pept. capi. 2. 6/prodate J. (1995 g. 2048. pept. capi. 2. 6/prodate J. (1994 J. (1995 g. 2048. pept. capi. 2. 6/prodate J. (1994 J. (1995 g. 2048. pept. capi. 2. 6/prodate J. (1994 J. (1995 g. 2048. pept. capi. 2. 6/prodate J. (1994 J. (1995 g. 2049. pept. capi. 2. 6/prodate J. (1994 J. (1995 g. 2049. pept. capi. 2. 6/prodate J. (1994 J. (1995 g. 2049. pept. capi. 2. 6/prodate J. (1994 J. (1995 g. 2049. pept. capi. 2. 6/prodate J. (1994 J. (1995 g. 2049. pept. capi. 2. 6/prodate J. (1994 J. (1995 g. 2049. pept. capi. 2. 6/prodate J. (1994 J. (1995 g. 2049. pept. capi. 2. 6/prodate J. (1994 J. (1995 g. 2049. pept. capi. 2. 6/prodate J. (1994 J. (1995 g. 2049. pept. capi. 2. 6/prodate J. (1994 J. (1995 g. 2049. pept. capi. 2. 6/prodate J. (1994 J. (1995 g. 2049. pept. capi. 2. 6/prodate J. (1994 J
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /cgn2_6/ptodata/1/paa/US102_COMB.pep:*
/cgn2_6/ptodata/1/paa/US60_COMB.pep:*
                                       GenCore version 5.1.4_p5_4578
Copyright (c) 1993 - 2003 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-273-164-32
US-09-791-537-75815
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-60-106-188-32
US-09-273-164-42
US-60-106-188-42
US-09-273-164-46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4569144 seqs, 644733110 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Post-processing: Minimum Match 08
Maximum Match 1008
Listing first 45 summaries
                                                                                                                                                                                               protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pending_Patents_AA_Main:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-273-164-32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             16
27
27
27
27
27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query
Match Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             379
379
379
379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             98.8
98.8
78.3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2008
2008
2008
1983
1983
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score
                                                                                                                                                                                                       OM protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     seguence:
```

75807

Gaps

Result

ð g à 셤 ò ð g à a à

03

g

```
PAPLICANT: Green, JOHANDA.
APPLICANT: Green, JOHANDA.
APPLICANT: Green, JOHANDA.
THILL OF INVESTIGATIONS AND METHODS FOR EARLY PREGNANCY DIAGNOSIS.
THILL OF INVESTIGATIONS AND METHODS FOR EARLY PREGNANCY DIAGNOSIS.
CHIERDRE APPLICATION OF THE STATE OF 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR EARLY PREGNANCY DIAGNOSIS
       301 SCRATKYLPSITFIINGIKYPMTARAYIFKDSRGRCYSAFKENTVRTSRETWILGDAFLR 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61 HPLRNIMNLYZVGNITIGTPPQEFQVVFDTGSSDLWVPSFCTMPACSAPVWFRQLQSSTF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121 QPTNKTFTTTYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGLEGRNYDGVLGLNYP 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121 OPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGLEGRNYDGVLGLNYP 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181 NISFSGAIPIFDNLKNOGAISEPVFAFYLSKNKQEGSVVMFGGVDHQYYKGELNWIPLIE 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181 NISFSGAIPIFDNLKNOGAISEPVFAFYLSKNKQEGSVVWFGGVDHQYYKGELNWIPLIE 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241 AGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTRPFDSKHYV 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241 AGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRIVNNIHRLIRTRPFDSKHYV 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301 SCFATKYLPSITFIINGIKYPNTARAYIFKDSRGRCYSAFKENTVRTSRETWILGDAFLR 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       301 SCFATKILPSITFIINGIKYPMTARAYIFKDSRCRCYSAFKENTVRTSRETWILGDAFLR 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61 HPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLWVPSPCTWPACSAPVWFROLOSSTF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 MKWIVLIGLVAR'SECIVKIPLRQVKTWRKTLSGKNMLKRFLKEHPYRLSQISFRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 MKWIVLLGLVAFSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 379;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             100.0%; Score 2008; DB 27;
100.0%; Pred. No. 5.3e-208;
tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-60-106-188-32; Sequence 32, Application US/60106188; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 42, Application US/09273164
GENERAL INFORMATION:
APPLICANT: Roberts, R. Michael
                                                                               361 RYPSVFDRGNDRIGLARAY 379
                                                                                                                                                       361 RYFSVFDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            361 RYFSVFDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     361 RYFSVFDRGNDRIGLARAY 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Roberts, R. Michael
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches 379; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Green, Jonathan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: xie, Sancei
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM: bovidae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-273-164-42
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LENGTH: 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-60-106-188-32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEO TO NO 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 4
              e
                                                                               ò
                                                                                                                                                q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               용
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           윤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    용
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRETICAN: DESCE, DESCE
APPLICANT: DENCE, JOSEPH
TITLE OF INVENTION: MREE DIRECTORIAL STRUCTURES OF PROTEIN FAMILLES AND FAMILY MEMBER
TITLE DO INVENTION: MREMONS OF USE THERRORY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                     181 NISFSGAIPIFEDKLKNOGAISEPVFAFYLSKNKQEGSVVMFGGVDHQYYKGELMWIPLIE 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61 HPLRNIMNLVYVGNITIGTPPQRFQVVFDTGSSDLAVPSFCTMPACSAPVWFRQLQSSTF 120
                                                                                                                                         HPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLWVPSFCTMPACSAPVWFRQLQSSTF 120
                                                                                                                                                                                                                        OPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGLBGRNYDGVLGLNYP 180
                                                                                                                                                                                                                                                     QPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGLGRNYDGVLGLNYF 180
                                                                                                                                                                                                                                                                                                                                                          NISFSGAIPIPDNIKNQGAISEPVFAFYLSKNKQEGSVVMFGGVDHQYYKGELNWIPLIE 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTRPFDSKHYV 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGENRUHMDRISMKRTULACSDGCEALVHTGTSHIBGPGRLVNNIHRLIRTRPPDSKHYV 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SCFATKYLPSITFIINGIKYPWTARAYIFKDSRGRCYSAFKENTVRTSRETWILGDAFLR 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SCFATKXLPSITFIINGIKYPMTARAYIFKDSRGRCYSAFKENTVRTSRETWILGDAFLR 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61 HPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLWVPSFCTWPACSAPVWFROLOSSTF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61 HPLANIMNLVYVGNITIGTPPQEFQVVFDTGSSDLWVPSFCTMPACSAPWFRQLQSSFF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          OPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDOPFGLSVVEYGLBGRNYDGVLGLNYP 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NISFSGAIPIFBNIKNQGAISEPVFAFYLSKNKQEGSVVMFGGVDHQYYKGELNWIPLIE 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181 NISFSGAIPIFDNLKNGGAISEPVFAPYLSKNKQEGSVVMFGGVDHQYYKGELMWIPLIE 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTRPFDSKHYV 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGEWRYHADRISMKRTVIACSDGCEALVHTGTSHIEGFGRLVNNIHRLIFFFFFFFFT 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SCFATKYLPSITFIINGIKYPMTARAYIFKDSRGRCYSAFKENTVRTSRETWILGDAFLR 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
MKWIVLLGLVAFSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 MKWIVLLGLVAFSECIVKIPLRQVKTWRKTLSGKNMLKNFLKEHPYRLSQISFRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MKWIVLLGLVAFSECIVKIPLRQVKTMRKTLSCKNMLKNFLKEHPYRLSQISFRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100.0%; Score 2008; DB 21; Length 379; 100.0%; Pred. No. 5.3e-208;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILE REFERENCE: 261/210
CURRENT APPLICATION VUMBER: US/09/791,537
CURRENT FILING DATE: 2001-02-22
NUMBER OF SEQ ID NOS: 153055
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 75815, Application US/09791537
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ő
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOFTWARE: PatentIn version 3.0
SEQ ID NO 75815
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             361 RYFSVFDRGNDRIGLARAY 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RYPSVFDRGNDRIGLARAY 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Bionomix, Inc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity
Natches 379: Conserva:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORGANISM: Bos taurus
US-09-791-537-75815
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-791-537-75815
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ENGTH: 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: PRT
                                                                                                                                                                                                                 21
                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                          81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241
```

121

g

ò 윰 à ô 윰 à 용 301

.

Q à à g g g a à

ò à à

Page

```
APPLICANT ROBERTS, R. Wichael
APPLICANT ROBERTS, R. Wichael
APPLICANT XIE, Sancel
APPLICANT XIE, Sancel
THE OF INVESTIGNED COMPOSITIONS AND METHODS FOR EARLY PRECNANCY DIAGNOSIS
FILE REPRENEES. UNMODISTUPNOSID
                                                                                                                            181 NISPSGAIPIPDNIKNOGAISEPVPAPYLSKNKOEGSVVMFGGVDHQYYKGELMMIPLIE 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61 HPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLWVPS-FCTMPACSAPVWFRQLQSST 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61 LPLRNIRDMLYVGNITIGTPROEFQVVFDTGSSDLWVPSDFCTSPACSTHVRFRHFQSST 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181 PNLSCSGAIFIFDKLKNOGAISDPIFAFYLSKDRREGSVVMFGGVDHRYYKGELMWPLI 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241 RAGDWIVHVDRITMKREVIACSDGCAALVDTGTSLIQGPGRVIDNIHKLIGATPRGSKHY 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         300 VSCFATKYLPSITFIINGIKYPWTARAYIFKDSRGRCYSAFKENTVRTSRETWILGDAFL 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  OPTHKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGLEGRNYDGVLGLNYP 180
                             121 QPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGLEGRNYDGALGLNYP 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   120 PQPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGLEGRNYDGVLGLNY 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 MKWIVLLGLVAPSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 MKWLVLIGLVAFSECIVKIPLRRVKTMRKTLSGKNTLNNFLKEHPYRLSHISFRGSNLTT 60
                                                                                                   181 NISFSGAIPIFDNLKNGGAISEPVFAFYLSKNKQEGSVVMFGGVDHQYYKGELNWIPLIE
                                                                                                                                                                                                  241 AGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTRPFDSKHYV
                                                                                                                                                                                                                           241 AGEMRVHMDRISHKRTVIACSDGCEALVHTGTSHIBGPGRLVNNIHRLIRTRPFDSKHTV
                                                                                                                                                                                                                                                                                            301 SCFATKYLPSITFIINGIKYPMTARAYIPKDSRGRCYSAFKENIVRISRETWILGDAFLR
                                                                                                                                                                                                                                                                                                                          301 SCFATNTLESITFIINGIKYPMTARAYIFKDSRGRCYSAFKENTVRTSRETWILGDAFLR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  180 PNISFSGAIPIFDNLKNQGAISEPVFAFYLSKNKQEGSVVMFGGVDHQYYKGELNWIPLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNEHRLIRTRPFDSKHY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 16; Length 380;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              51;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; Pred. No. 1.2e-160;
31; Mismatches 51;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 78.3%; Score 1571.5; Best Local Similarity 78.2%; Pred. No. 1.2e Matches 297; Conservative 31; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CURRENT APPLICATION NUMBER: US/09/273,164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EARLIER APPLICATION NUMBER 60/078,783
EARLIER FILING DATE: 1998-03-20
EARLIER FILING DATE: 1998-10-28
EARLIER FILING DATE: 1998-10-28
NUMBER OF SEQ 1D NOS: 56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 46, Application US/09273164
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        360 RRYFSVPDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CURRENT FILING DATE: 1999-03-19
                                                                                                                                                                                                                                                                                                                                                                                                361 RYPSVPDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                                                                         361 RYPSVPDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Patentin Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM: bovidae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-273-164-46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-273-164-46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQ ID NO 46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOFTWARE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LENGTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     240 1
                                                 g
                                                                                                   ò
                                                                                                                                                윤
                                                                                                                                                                                                  à
                                                                                                                                                                                                                                               윱
                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                              윰
                                                                                                                                                                                                                                                                                                                                                                                                ô
                                                                                                                                                                                                                                                                                                                                                                                                                                             윤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: X1e, Sancel
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR EARLY PREGNANCY DIAGNOSIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121 OPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDOPFGLSVVEYGLGGRNYDGVLGLNYP 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121 QPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGLEGRNYDGALGLNYP 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181 NISFSGAIPIFDNLKNOGAISEPVFAFYLSKNKOEGSVVMFGGVDHOYYKGELNWIPLIE 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181 NISPSGAIPIFPNLKNOGAISEPVPAPYLSKNKQBGSVVMFGGVDHQYYKGELNMIPLIE 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241 AGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTRPFDSKHYV 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301 SCFATNTLPSITFILINGIKYPWIARAYIFKDSRGRCYSAFKENTVRTSRETMILGDAFLR 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61 HPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLAVPSFCTMPACSAPVWFRQLQSSTF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61 HPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLWVPSFCTMPACSAPVWFRQLQSSTF 120
                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                   1 MKWIVLIGLMARSECIVQIPLEQVKTWRKTLSGKNMLKNFLKEHPFRLSGISFRGSNLTI 60
                                                                                                                                                                                                                                                                                                                          1 MKWIVLIGLVAPSECIVKIPLROVKTMRKTLSGKNMLKNFLKEHPYRLSOISFRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 NKWIVLLGLVAFSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MKWIVLLGLMAFSECIVQIPLRQVKTMRKTLSGKNMLKNPLKEHPYRLSQISPRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241 AGEWRVHMDRISMKRTVIACSDGCEALVHIGTSHIEGPGRLVNNIHRLIRIRPFDSKHYV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SCFATKYLPSITFIINGIKYPMTARAYIFKDSRGRCYSAFKENTVRTSRETWILGDAFLR
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 379;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 379;
                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           98.8%; Score 1983; DB 27;
larity 98.7%; Pred. No. 2.7e-205;
Conservative 2; Mismatches 3;
                                                                                                                                                                                                                      Score 1983; DB 16;
Pred. No. 2.7e-205;
2; Mismatches 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FILE REFERENCE: UVMO003P22
CURRENT APPLICATION NUMBER: US/60/106,188
CURRENT FILING DATE: 1998-10-28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 42, Application US/60106188
GENERAL INFORMATION:
APPLICANT: Roberts, R. Michael
APPLICANT: Green, Jonathan
EARLIER FILING DATE: 1998-10-28
NUMBER OF SEQ ID NOS: 56
SOFTWARE: PATENTIN Ver. 2.0
SEQ ID NO 42
LENGTH: 379
                                                                                                                                                                                                                      98.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RYFSVFDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RYFSVPDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SOPTWARE: Patentin Ver. 2.0
                                                                                                                                                                                                                                                                   Matches 374; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NUMBER OF SEQ ID NOS: 56
                                                                                                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best Local Similarity
Matches 374: Conserv
                                                                                                                       TYPE: PRT
: ORGANISM: bovidae
US-09-273-164-42
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM: bovidae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-60-106-188-42
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-60-106-188-42
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LENGTH: 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQ ID NO 42
                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                    Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          361
```

8 à 6

361 RLYPSVFDRGNDRIGLARAV

g

FILE REFERENCE: 261/210
CURRENT APPLICATION NUMBER: US/09/791,537
CURRENT FILING DATE: 2001-02-22
UNHBER OF SEQ ID NOS: 15:055

SOFTWARE: Patentin version 3.0

SEQ ID NO 53214 LENGTH: 380

TYPE: PRT ORGANISM: Bos taurus US-09-791-537-53214 Best Local Similarity 78.2 Matches 297; Conservative

a à a

g 8 à

g à g

Query Match

Sequence 53214, Application US/09791537 GENERAL INFORMATION:

US-09-791-537-53214

APPLICANT: Bionomix, Inc. APPLICANT: Debe, Derek

```
ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Green, Jonathan APPLICANT: XIE, SMRTY APPLICANT: XIE, SMRTY ONLOWN TITLE OF INVENTIONS ON DIAGNOSIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61 HPLRNIMNLYYVGNITIGTPPQEFQVYFDTGSSDLWVPS-PCTMPACSAPVWFRQLQSST 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61 LPLRNIRDMLYVGNITIGTPPQEFQVVFDTGSSDLMVPSDFCTSPACSTHVRFRHFQSST 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    120 FQPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGLBGRNYDGVLGLNY 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             180 PNISFSGAIPIFDNLKNQGAISEPVFAFYLSKNKQBGSVVMFGGVDHQYYKGELNWIPLI 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181 PNLSCSGAIPIFPEKLKNQGAISDPIFAFYLSKDKREGSVVAFGGVDHRYRGELMAVPLI 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 240 EAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTRPFDSKHY 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     241 RAGDWIVHVDRITMKREVIACSDGCAALVDTGTSLIQGPGRVIDNIHKLIGATPRGSKHY 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     300 VSCFATKYLPSITFIINGIKYPMTARAYIFKDSRGRCYSAFKENTVRTSRETWILGDAFL 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301 VSCSVWTLPSIIFTINGINFPVPAPAYILKDSRGYCYTAFKEORVRRSTESWILGDVFL 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61 HPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLWVPS-FCTMPACSAPVWFRQLQSST 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61 HPLRNIKDLVYMGNITIGTPPQBFQVVFOTASSDLWVPSDFCTSPACSTHVRFRHLQSST 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           120 FQPTNKTFTTYGSGSMKGPLAYOTVRIGOLVSTOQPFGLSVVEYGLEGRNYOGVLGLNY 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 MKWIVILGINATERSECIVKIPLRRVKTWRKTLSGKWTLNNFLKEHPYRLSHISFRGSNLTT 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 MKWLVLLGLVAFSECIVKIPLRRLKTWRNVVSGKNMLNNFLKEHAYSLSGISFRGSNLTT 60
                                                                                                                                                                                                                                                                                             Gaps

    1 MKWIVLLGLVAFSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGSNLTI 60

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 MKWIVLIGIVAPSECIVKIPLROVKTMRKTLSGKNMLKNFLKEHPYRLSOISFRGSNLTI 60
                                                                                                                                                                                                                                                                                             ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 16; Length 380;
                                                                                                                                                                           DB 27; Length 380.
                                                                                                                                                               Outery Match 78.3%; Score 1571.5; DB 27; Length Best Local Similarity 78.2%; Pred. No. 1.2e-160; Matches 297; Conservative 31; Mismatches 51; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   54; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 77.7%; Score 1559.5; DB 1
78.2%; Pred. No. 2.3e-159;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        28; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CURRENT APPLICATION THE REPRESENCE INVOIGNOUS PROFILES OF STREET PROFILES OF 159 VIOLENT PROFILES OF STREET 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 24, Application US/09273164 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              360 RRYFSVFDRGNDRIGLARAY 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                361 REYFSVFDRGNDRIGLARAV 380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Roberts, R. Michael
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches 297; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Local Similarity
; ORGANISM: bovidae
US-60-106-188-46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM: bovidae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-273-164-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-273-164-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LENGTH: 380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEC ID NO 24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  윱
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRICART: Debe, Donner, Joseph
APPLICANT: DE VINERTION: "FIREE DIPENSIONAL STRUCTURES OF PROTEIN FAMILIES AND FAMILY MEMBER
TITLE OF INVENTION: WETSHOOS OF USE THERROY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Green, JOHNSTEIN R. HICHDRAL APPLICANT: Green, JOHNSTEIN R. HICHDRAL APPLICANT: Green, JOHNSTON R. ABLICONT: Green, JOHNSTON R. GRANT PREGNANCY DIAGNOSIS THE PREGNANCY DIAGNOSIS OF MARTINE R. GRANT PREGNANCY DIAGNOSIS COURSENT FILMS DAYE: 1998-10-280 JOHNSTON ROWS TO TO MOSS : 50 TO MOSS : 50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61 HPLRNIMNLVYVGNITIGTPPQBFQVVFDTGSSDLWVPS-FCTMPACSAPVWFF0L0SST 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61 LPLRNIRDMLYVGNITIGTPPQEFQVVFDTGSSDLWVPSDFCTSPACSTHVRFRHFQSST 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    120 FQPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGLEGRNYDGVLGLNY 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121 FRPTTKTFRIIYGSGRMKGVVAHDTVRIGNLVSTDQPFGLSMAEYGLESRRFDGILGLNY 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             180 PNISFSGAIPIFDNLKNOGAISEPVFAFYLSKNKQEGSVVMFGGVDHQYYKGELNWIPLI 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     240 EAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTRPFDSKHY 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241 RAGDWIVHVDRITHKREVIACSDGCAALVDTGTSLIQGPGRVIDNIHKLIGATPRGSKHY 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              300 VSCFATKYLPSITFIINGIKYPMTARAYIFKDSRGRCYSAFKENTVRTSRETWILGDAFL 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 MKWILVLIGLVAFSECIVKIPLRRVKTWRKTLSGKNTLNNFLKEHPYRLSHISFRGSNLTT 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 MKWIVLLGLVAFSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   78.3%; Score 1571.5; DB 21; Length 380; 78.2%; Pred. No. 1.2e-160;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 51; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 31; Mismatches
```

Sequence 46, Application US/60106188 GENERAL INFORMATION:

LENGTH: 380 TYPE: PRT SEQ IO NO 46

US-60-106-188-46

RESULT 8

361 RLYFSVFDRGNDRIGLARAV 380

160 RRYPSVFDRGNDRIGLARAV 379

121 PRLTHKTFRITYGSGRMKGVVVHDTVRIGHLVSTDQPFGLSIEBYGFBGRIYDGVLGLNY 180

> à 9 ò a à à

```
APPLICANT: Deeb, Deep F. PARTICANT SHOWN ON THE STRUCTURES OF PROTEIN PARTIES AND PARLY NG PRITTED OF THE PROPERTY OF THE PROP
                                                                                                                              ARPLICANT: Roberts, R. Michael
ARPLICANT: Grea. Onachan
APPLICANT: Grea. Onachan
TITIE OF STRUCKT. XIs. Sancel
TITIE OF STRUKENION COMPOSITIONS AND METHODS FOR EARLY PREGNANCY DIAGNOSIS
TITIE REPERVE: UNMODIFIED.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61 HPLRNIKDLVYMGNITIGTPPQEPQVVFDTASSDLWVPSDFCTSPACSTHVRFRHLQSST 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          180 PNISFSGAIPIFDNLKNQGAISEPVFAFYLSKNKQEGSVVMFGGVDHQYYKGELNWIPLI 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181 PNISFSGAIPIFDKLKNQRAISEPPPAFYLSKDEREGSVVMFGGVDHRYYBGELWWVPLI 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             240 BAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTRPFDSKHY 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              30 VSCFATKYLPSITFIINGIKYPWTARAYIFKDSRGRCYSAFKENTVRTSRETWILGDAFL 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61 HPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLWVPS-FCTMPACSAPVWFRQLQSST 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 120 FQPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGLBGRNYDGVLGLNY 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121 FRLTNKTFRITYGSGRMKGVVVHDTVRIGNLVSTDQPFGLSIEEYGFBGRIYDGVLGLNY 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 MKMLVLLGLVAPSECIVKIPLRRLKTWRNVVSGRNMLNNFLKEHAYSLSQISFRGSNLTT 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 MKWIVLLGLVAFSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 380;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             54: Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 27;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            77.7%; Score 1559.5; DB 27.78.2%; Pred. No. 2.3e-159;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             28; Mismatches
                                                                                                                                                                                                                                                                                                                                                                        CURRENT APPLICATION NUMBER: US/60/106,188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CURRENT APPLICATION NUMBER: US/09/791,537
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 120793, Application US/09791537
                                      Sequence 24, Application US/60106188
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CURRENT FILING DATE: 2001-02-22
NUMBER OF SEQ ID NOS: 153055
                                                                                                                                                                                                                                                                                                                                                                                                                         CURRENT FILING DATE: 1998-10-28
NUMBER OF SEQ ID NOS: 56
SOFTWARE: PATENTIN VET. 2.0
SEQ ID NO 24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               360 RRYFSVPDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 361 RLYFSVPDRGNDRIGLARAV 380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOFTWARE: PatentIn version 3.0
SEQ ID NO 120793
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches 297: Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Bionomix, Inc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: PRT
ORGANISM: Bos taurus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sest Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORGANISM: bovidae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-09-791-537-120793
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-791-537-120793
US-60-106-188-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          JS-60-106-188-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
```

```
Length 378;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 1553; DB 21;
Pred. No. 1.2e-158;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       79.48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
APPLICANE: DARACE, JOSEPH APPLICANE, STRUCTURES OF PROTEIN FAMILIES AND FAMILY MEMBER TITLE OF PROFESSIONS THERE DIMENSIONAL STRUCTURES OF PROTEIN FAMILIES AND FAMILY MEMBER TITLE OF THE MEMBER SELVEN SELVILOR MEMBERS. SELVILOR SELVEN SERVERS SELVILOR MEMBERS SELVILOR SELVILOR SERVERS SELVILOR SELVILOR SERVERS SERVERS SELVILOR SERVERS SERVE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ä
```

1; Gaps

DB 21; Length 380; 54; Indels

77.7%; Score 1559.5; DB 21 78.2%; Pred. No. 2.3e-159; ive 28; Mismatches 54;

Matches 297; Conservative

ò qq g g

à à ŝ

CURRENT APPLICATION NUMBER: US/09/791,537 CURRENT FILING DATE: 2001-02-22 NUMBER OF SEQ ID NOS: 153055

SOFTWARE: PatentIn version 3.0 SEQ ID NO 82253

ORGANISM: Bos taurus Best Local Similarity

JS-09-791-537-82253 LENGTH: 380 PR Query Match

Sequence 82253, Application US/09791537 GENERAL INFORMATION:

US-09-791-537-82253

APPLICANT: Bionomix, Inc. APPLICANT: Debe, Derek

윤

Best Local Similarity

ò g ð 9

RESULT 11

g à g g

ò à 윱 8 ð 8

ô

```
APPLICANT Scherie, R. Wiches! Arches! APPLICANT Scheric X. Steps and APPLICANT Scheric X. Steps Scheric X. S
                                                                          242 GEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTRPFDSKHYVS 301
                                                                                                                         302 CFATKYLPSITFIINGIKYPWTARAYIFKDSRGRCYSAFKENTVRTSRETWILGDAFLRR 361
                                                                                                                                                                                                                                                                                                                    64 RNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLMVPS-FCTMPACSAPVWFRQLQSSTFQP 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    64 RNIKDLIYVGNITIGIPPQEPQVVFDTGSSDFWVPSDFCTSRACSTHVRFRHLQSSTFRL 123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    124 TNKTFRITYGSGRMKGVVAHDTVRIGDLVSTDQPFGLSVEEYGFEGRAYYDGVLGLNYPN 183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               182 ISPSGAIPIFDNLKNQGAISEPVFAFYLSKNKQEGSVVMFGGVDHQYYKGELNWIPLIEA 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                184 ISFSGAIPIPDNLKNQGAISEPVFAILLSKDEQEGSVVMFGGVDHRYYEGELNWVPLIER 243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 123 TNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGLEGR-NYDGVLGLNYPN 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         242 GEWRYHMDRISMKRTVIACSDGCEALVHTGTSHIBGPGRLVNNIHRLIRTRPFDSKHYYS 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    302 CFATKYLPSITFIINGIKYPMTARAYIPKDSRGRCYSAFKENTVRTSRETWILGDAPLRR 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4 LVLLGLVAFSECIVKIPLRRVKTMRNTVSGKNILANILKEHVYRLSQISFRGSNLTTHPL 63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4 IVLLGLVAPSECIVKIPLRQVKTMRKTLSGKNMLKNPLKEHPYRLSQISFRGSNLTIHPL 63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 381;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              77.3%; Score 1553; DB 27;
llarity 79.4%; Pred. No. 1.2e-158;
Conservative 25; Mismatches 51;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CURRENT APPLICATION NUMBER: US/60/106,188
CURRENT FILTING DARE: 1998-10-28
NUMBER OF SEQ ID NOS: 56
SOFTWARE: PALENLIN Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; Sequence 26, Application US/60106188
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; Sequence 48, Application US/09273164
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Roberts, R. Michael
APPLICANT: Green, Jonathan
APPLICANT: Xie, Sancel
                                                                                                                                                                                                                                                                                                                                                                                                                                                       362 YFSVPDRGNDRIGLARAY 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           164 YFSVPDRGNDRIGLARAV 381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      362 YFSVFDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          364 YFSVFDRGNDRIGLARAV 381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILE REFERENCE: UVMO003P22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sest Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORGANISM: bovidae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-60-106-188-26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 15
US-09-273-164-48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-60-106-188-26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LENGTH: 381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      300:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQ ID NO 26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                         qq
                                                                                                                                                     q
                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     윱
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                  5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRILICANT, Significant of the state of the s
                                                                                                                                                                                                                                                                                                                                      181 ISFSGAIPIFDNLKNOGAISEPVFAILLSKDEQEGSVVMFGGVDHRYYEGELNWVPLIEA 240
                                                                                                                                                                                                                                                                                        64 RNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLMVPS-FCTMPACSAPVWFRQLQSSTFQP 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   123 TNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGLEGR-NYDGVLGLNYPN 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ISFSGAIPIFDNLKNGGAISEPVFAFYLSKNKQEGSVVMFGGVDHQYYKGELNWIPLIEA 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTRPFDSKHYVS 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CFATKYLPSITFIINGIKYPMTARAYIFKDSRGRCYSAFKENTVRTSRETWILGDAFLRR 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        THILL THILL THE STANDARD TO BE STANDARD THE THE THILL THE T
                  Gaps
                                                                                                                                                                                 1 LVLLGLVAFSECIVKIPLRRVKTMRNTVSGKNILNNILKEHVYRLSQISFRGSNLTTHPL 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           64 RNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLWVPS-FCTMPACSAPVWFRQLQSSTFQP 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            THKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGLEGR-NYDGVLGLNYPN 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ISPSGAIPIFDNLKNQGAISEPVFAFYLSKNKQEGSVVMFGGVDHQYYKGELNWIPLIEA 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ISPSGAIPIFDNLKNQGAISEPVFAILLSKDEQEGSVVMFGGVDHRYYEGELNWVPLIEA 243
                                                                                                      4 IVLIGLVAFSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGSNLTIHPL 63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4 IVLLGLVAFSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGSNLTIHPL 63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4 LVLLGLVAFSECIVKIPLRRVKTMRNTVSGKNILANILKEHVYRLSOISFRGSNLTTHPL 63
                  3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 381;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            51; Indels
                  51; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     77.3%; Score 1553; DB 16;
79.4%; Pred. No. 1.2e-158;
         25; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            25; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EARLIER APPLICATION NUMBER: 60/106,188
EARLIER FILING DATE: 1998-10-28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 26, Application US/09273164
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Roberts, R. Michael
APPLICANT: Green, Jonathan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  362 YFSVFDRGNDRIGLARAY 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      361 YPSVFDRGNDRIGLARAV 378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOFTWARE: Patentin Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
Matches 300; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NUMBER OF SEC ID NOS: 56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; ORGANISM: bovidae
US-09-273-164-26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-273-164-26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            300:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQ ID NO 26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  184
```

à a à g à 윱 ò

ö

Wed Apr 2 18:27:33 2003

```
TITLE OF HEATTON. COMPOSITIONS AND METHODS FOR EARLY PRESIDANCE DIAGNOSES. TILL REPRESENTE. UNMONOTORY CONTROL OF A CONTRO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61 HPLRNIMMLVYVGNITIGTPPQEFQVVFDTGSSDLWVPS-FCTMPACSAPVWFFQLQSST 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61 HPLANIMDMLYYGNITIGTPPQEFQVYFDTGSSDLWVPSVFCQSLACATKVWFIHLHSST 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 120 FQPTHKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGLEGRNYDGVLGLNY 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       180 PNISFSGAIPIFDNLKNQGAISEPVFAFYLSKNKQEGSVVMFGGVDHQYYKGELNWIPLI 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             240 EAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTRPFDSKHY 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 MKWIVLLGLVAFSECIVKIPLRQVKTMRKŢLSGKNMLKNFLKEHPYRLSQISFRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 MKMLVLLALVAFSECIVKIPLADVKTWRKTLSGKNTLNNFLKEHTYSLSQISSRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121 FRHTQKVFNIKYNTGRAKGLLVYDTVRIGDLVSTDQPPCISLAEVGFDGIPFDGVLGLAY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241 QAGGWTVHVDRISMRKKIIACSGGCEALVDFGTALIKGPRRLVNNIQKLIGTTPRGSKHY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ouery Match

76.3%; Score 1532.5; DB 16; Length 380;
Best Local Similarity 77.6%; Pred. No. 25.156;
Matches 295; Conservative 25; Masherbes 59; Indels 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Search completed: April 2, 2003, 17:48:10
Job time : 147 secs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          360 RRYFSVFDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             361 RLYFSVFDRGNDRIGLARAV 380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: PRT
CORGANISM: bowidae
US-09-273-164-48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             용
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         윤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          à
```

on:

```
us-09-273-164-32.rapn
```

```
PARTICANT: LUCY, MAILIBA C. MARITHEW C. MARINAMENTE DARLY PREGNANCY DIACHOSI FILE DE THEMSELLIAND. MAGASITIONS AND METHODS FOR ACCURATE EARLY PREGNANCY DIACHOSI FILE REFERENCE: UMAGINGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                             Sequence 4, Appli
Sequence 8, Appli
Sequence 6, Appli
Sequence 10, Appl
Sequence 13, Appl
Sequence 12, Appl
                                                                                                                                                                                                                                                                           Sequence 132, App
Sequence 54, Appl
Sequence 467, Appl
Sequence 3604, Ap
Sequence 1354, Ap
Sequence 11689, A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 491, App
Sequence 134, App
Sequence 11103, A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 42, Appl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61 HPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLWVPSFCTMPACSAPVWFRQLQSSTF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61 HPERNIMNEVYVGNITIGTPPQEPQVVFDTGSSDLWVPSFCTMPACSAPVWFRQLQSSTF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SCFATKYLPSITFILMSIKYPWTARAYIFKSSRGRCYSAFKENWYRTSRETWILGDAFLR 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OPINKIFIITYGSGSMKGFLAYDIVRIGDLVSIDOPFGLSVVEYGLEGRNYDGVLGLNYP 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   OPTWKTFILIYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGLEGRNYDGVLGLNYP 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181 NISFSGAIPIFDNLKNGGAISEPVFAFYLSKNKQEGSVVNFGGVDHQYYKGELNWIPLIE 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AGEMEVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTRFFDSKHYV 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SCFATKYLPSITFIINGIKTPMTARAYIFKDSRGRCYSAFKENTVRTSRETWILGDAFLR 360
                                                                                                                                                                                                                                                                    Sequence 132,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTRPFDSKHYV 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 MKWIVLLGLVAFSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 MKWIVLLGLVAFSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGSNLTI 60
                                  Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 379;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             100.0%; Score 2008; DB 1;
ilarity 100.0%; Pred. No. 6.5e-190;
Conservative 0; Mismatches 0;
US-10-74-978-130

US-10-74-978-131

US-10-74-978-131

US-10-74-978-16

US-10-74-978-16

US-10-74-978-16

US-10-74-978-13

US-10-74-978-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-10-307-700-42
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CURRENT APPLICATION NUMBER: PCT/USO2/37236A
CURRENT FILING DATE: 2002-11-20
PRIOR PILING DATE: 2003-11-30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 32, Application PC/TUS0237236A
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 161 RYFSVFDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQ ID NOS: 56
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 32
      Similarity
      ORGANISM: bovidae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PCT-US02-37236A-32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PCT-US02-37236A-32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sest Local Sin
Watches 379;
                                                                                                                                                                                                                                         848
702.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
772.5
77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LENGTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301
g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Appl
Appl
Appl
Appl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Appl
Appl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Appl
                                                                                                                                                                                                                                  Search time 31 Seconds
(without alignments)
1766.151 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Seguence 32, Appl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 26, 2
Sequence 48, 4
Sequence 44, 6
Sequence 50, 8
Sequence 50, 8
Sequence 55, 8
Sequence 52, 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 29, p. sequence 27, p. sequence 37, p. sequence 37, p. sequence 35, p. sequence 35, p. sequence 25, p. sequence 25, p. sequence 36, p
                                                                                                                                                                                                                                                                                                                                                                                                                                        1 MKWIVLLGLVAFSECIVKIP.......RRYFSVFDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Seguence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          sednence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               seguence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Seguence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   edneuce
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ednence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 edneuce
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Podrilig_Patents_Albaw:
Podrilig_Patents_Albaw:
Podrilig_Patents_Albaw:
Podril_Eptodate_Alfaw_Albaw:
Podril_Eptodate_Alfaw_Albaw:
Podril_Eptodate_Alfaw_Albaw:
Podril_Eptodate_Alfaw_Albaw:
Podril_Eptodate_Alfaw_Albaw:
Podril_Eptodate_Alfaw_Albaw:
Podril_Eptodate_Alfaw_Albaw:
Podril_Eptodate_Alfaw_Albaw:
Podril_Eptodate_Alfaw_Albaw:
Podrilig_Eptodate_Alfaw_Albaw:
Podrilig
                           GenCore version 5.1.4_p5_4578
Copyright (c) 1993 - 2003 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PCT (1802 - 77256 - 4 END (1802 - 77266 - 4 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PCT-US02-37236A-34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PCT-US02-37236A-33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PCT-US02-37236A-38
PCT-US02-37236A-31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-10-074-978A-128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-10-074-978A-129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    656186 seqs, 144460914 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Listing first 45 summaries
                                                                                                                                                                    protein search, using sw model
                                                                                                                                                                                                                                  April 2, 2003, 17:45:45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Maximum Match 100%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      length: 0
length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Post-processing: Minimum Match 08
                                                                                                                                                                                                                                                                                                                                                                           US-09-273-164-32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query
Match Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               46.0
                                                                                                                                                                                                                                                                                                                                                                                                      2008
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Minimum DB seq
Maximum DB seq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1983
1571.5
1559.5
1553
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1525.5
1526.5
1526.5
1526.5
1511.5
1508.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1449.5
1388.5
1368.5
1368.5
1298
1157.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1151.5
1148.5
1105.5
1086.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        923.5
                                                                                                                                                                                                                                                                                                                                                                                                             Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        fotal number
                                                                                                                                                                    OM protein
                                                                                                                                                                                                                                                                                                                                                                                                                                               sednence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Database
```

Result No.

361 RYFSVFDRGNDRIGLARAY 379

CURRENT APPLICATION NUMBER: PCT/USO2/37236A CURRENT FILING DATE: 2002-11-20 PRIOR APPLICATION NUMBER: 60/331,822

FILE REFERENCE: UVMO019W0

2001-11-20

PRIOR FILING DATE:

NUMBER OF SEQ ID NOS: 56 SOFTWARE: Patentin Ver. 2.0

Matches 374; Conservative

à ò g ò g à g à g à à

5 121 181

Query Match Best Local Similarity

ORGANISM: bowidae PCT-US02-37236A-42

ENGTH: 379

TYPE: PRT

SEQ ID NO 42

Sequence 42, Application PC/TUS0237236A GENERAL INFORMATION:

PCT-US02-37236A-42

ORGANISM: bovidae

TYPE: PRT

```
APPLICANT: LACY, Matthew C.
APPLICANT: Mathiland: Wigaspan
TITLE OF INVENTIAL SOMPOSITIONS AND METHODS FOR ACCURATE BARLY PREGNANCY DIAGNOSI
                                                                                                       ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ä
                                                                                                                                                                                                                                                 61 HPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLWVPS-FCTMPACSAPVWFRQLQSST 119
                                                                                                                                                                                                                                                                                             61 LPLRNIRDMLYVGNITIGTPPQEFQVVFDTGSSDLWVPSDFCTSPACSTHVRFRHFQSST 120
                                                                                                                                                                                                                                                                                                                                              120 FOPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGLEGRNYDGVLGLNY 179
                                                                                                                                                                                                                                                                                                                                                                       180 PNISFSGAIPIFDNLKNOGAISEPVFAFYLSKNKOEGSVVMFGGVDHQYYKGELNWIPLI 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     240 EAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTRPFDSKHY 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             300 VSCPATKYLPSITFIINGIKYPWTARAYIFKDSRGRCYSAFKENTVRTSRETWILGDAFL 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61 HPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLAVPS-FCTMPACSAPVWFRQLQSST 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61 HPLRNIKDLVYMGNITIGTPPQEEQVVFDTASSDLAVPSDFCTSPACSTHVRFRHLOSST 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      120 FQPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGLEGRNYDGVLGLNY 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121 FRLFNKTFRITYGGGRAKGVVVHDTVRIGNLVSTDQPFGLSIEBYGFEGRIYDGVLGLNY 180
                                                                                                                                                                            1 MKWLVLLGLVAFSECIVKIPLRRVKTWRKTLSGKNTLNNFLKEHEVRLSHISFRGSNLTT 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                       Gaps
                                                                                                                                                   1 MKWIVLLGLVAFSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 MKWIVLLGLVAFSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 MKWLVLLGLVAFSECIVKIPLRRLKTMRNVVSGKNMLNNFLKEHAYSLSQISFRGSNLTT 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 380;
                                                      Length 380;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     54; Indels
                                                                                                       Indels
                                                      DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 1;
                                                                                                  51;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 1559.5; DB 1
pred. No. 1.4e-145;
                                                                         Pred. No. 9e-147;
                                                 Score 1571.5;
                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     28; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CURRENT APPLICATION NUMBER: PCT/USO2/37236A CURRENT FILING DATE: 2002-11-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 24, Application PC/TUS0237236A
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRIOR APPLICATION NUMBER: 60/331,822
PRIOR PILING DATE: 2001-11-20
                                                                                             31;
                                            78.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     360 RRYFSVFDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      361 RLYFSVFDRGNDRIGLARAV 380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    77.78;
                                                                                                  Matches 297; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE: Patentin Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches 297; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FILE REFERENCE: UVMO019W0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQ ID NOS: 56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
                                                                         Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    bovidae
PCT-US02-37236A-46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PCT-US02-37236A-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PCT-US02-37236A-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQ ID NO 24
LENGTH: 380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORGANISM:
                                                      Duery Match
                                                                              Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   q
                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                   ò
                                                                                                                                                                                                g
                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                         APPLICANT: LOCY, Matthew C.
APPLICANT: Mathialagan, Wapapan
APPLICANT: Mathialagan, Wapapan
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR ACCURATE EARLY PREGNANCY DIAGNOSIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: LAUCY, MAITHEW C. ANGAPPAN APPLICANT: MATHALANGEN NORPHORE FOR ACCURATE EARLY PREGNANCY DIAGNOSIS TITLE OF INVERTION: COMPOSITIONS AND METHODS FOR ACCURATE EARLY PREGNANCY DIAGNOSIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        HPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLWVPSFCTMPACSAPVWFRQLQSSTF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61 HPLRNIMNLYYVGNITIGTPPQEFQVVFDTGSSDLWVPSFCTMPACSAPVWFRQLOSSTF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  OPTHKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGLEGRNYDGVLGLNYP 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121 OPTHKTFTITYGSGSMKGFLAYDTVRIGDLVSTDOPFGLSVVPYGLEGRNYDGALGLNY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NISFSGAIPIFDNLKNQGAISEPVFAFYLSKNKQEGSVVMFGGVDHQYYKGELNWIPLIE 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             24.1 AGEWRYHMDRISMKRTVIACSDGGEALVHTGTSHIEGPGRLYNNIHRLIRTRPFDSKHYV 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241 AGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTRPFDSKHYV 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SCFATKYLPSITFIINGIKYPMTARAYIFKDSRGRCYSAFKENTVRTSRETWILGDAFLR 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SCFATNILPSITFILINGIKYPWIARAXIFKDSRGRCYSAFKENTVRISRETWILGDAFLR 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 MKWIVLLGLVAFSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSGISFRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 MKWIVLLGLMAFSECIVQIPLRQVKTMRKTLSGKNNLKNFLKEHPYRLSQISFRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ő
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                98.8%; Score 1983; DB 1; Length 379; 98.7%; Pred. No. 1.9e-187; ive 2; Mismatches 3; Indels
```

CURRENT APPLICATION NUMBER: PCT/US02/37236A

FILE REFERENCE: UVMO019W0

CURRENT FILING DATE: 2002-11-20

PRIOR APPLICATION NUMBER: 60/331,822 PRIOR FILTING DAFE: 2001-11-20 NUMBER OF SEQ ID NOS: 56 SOFTWARE: PATENTIN VET: 2.0

LENGTH: 380

SEQ ID NO 46

Sequence 46, Application PC/TUS0237236A GENERAL INFORMATION:

PCT-US02-37236A-46

RYFSVFDRGNDRIGLARAV 379 RYFSVFDRGNDRIGLARAY 379

361 361

301

181

Wed Apr

```
us-09-273-164-32.rapn
```

```
PARTICIANT: LUCY, Natitud Agating C.
APPLICANT: Mathin Jogan. Nagappan
FILE OF INVESTIGNAT NAD HERWOOD FOR ACCURATE DABLY PRESNANCY DIACNOSI
FILE REFERENCE: UMMOISHON
                     PAPICART: LACY, MARTHEW C... MAILING TO MAILING TO MAILING TO MAILING TO MAILING TO MAILING TO MAINTED THE OFFICER SERVENCE I UNGOISTORY.
FILE REVERENCE: UNGOISMO.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61 HPLRNIMDMLYVGNITIGTPPQEFQVVFDTGSSDLWVPSVFCQSLACATKVWFIHLHSST 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              120 FQPTNKTFFITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGLEGRNYDGVLGLNY 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   180 PNISFSGAIPIFDNLKNQGAISEPVFAFYLSKNKQBGSVVMFGGVDHQYYKGELNWIPLI 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240 EAGEWRYHMDRISMKRIVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTRPFDSKHY 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             300 VSCFATKYLPSITFIINGIKYPMTARAYIFKDSRGRCYSAPKENTVRTSRETWILGDAFL 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61 HPLRNIMNLVYVGNITIGTPPOEFOVVFDTGSSDLWVPS-FCTMPACSAPVWFRQLQSST 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 MKWIVLLGLVAFSECIVKIPLRQVKTHRKTLSGKNMLKNFLKEHPYRLSQISFRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 MKWLVLLWLVAFSECIVKIPLRQVKTWRKTLSGKNTLNNFLKEHTYSLSQISSRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              12] FRHTOKVENIKYNYGRMKGLLVYDTVRIGDLVSTDOPFCISLAEVGFDGIPFDGVLGLNY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 380;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              :65
                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 1532.5; DB 1;
Pred. No. 6.4e-143;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              25; Mismatches
                                                                                                                     CURRENT APPLICATION NUMBER: PCT/USO2/37236A
CURRENT FILING DAFE: 2002-11-20
PRIOR APPLICATION NUMBER: 60/331,822
PRIOR FILING DATE: 2001-11-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CURRENT APPLICATION NUMBER: PCT/US02/37236A
CURRENT FILING DATE: 2002-11-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 54, Application PC/TUS0237236A GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR APPLICATION NUMBER: 60/331,822
PRIOR FILING DATE: 2001-11-20
                                                                                                                                                                                                                                                                                                                                                                                                                                              76.38;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       360 RRYFSVFDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       361 RLYFSVFDRGNDRIGLARAV 380
                                                                                                                                                                                                                               NUMBER OF SEQ ID NOS: 56
SOFTWARE: Patentin Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches 295; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NUMBER OF SEQ ID NOS: 56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SOFTWARE: Patentin Ver.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best Local Similarity
SENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                               ORGANISM: bovidae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 bovidae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PCT-US02-37236A-54
                                                                                                                                                                                                                                                                                                                                                                                         PCT-US02-37236A-48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PCT-US02-37236A-54
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LENGTH: 380
                                                                                                                                                                                                                                                                                                               LENGTH: 380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQ ID NO 54
                                                                                                                                                                                                                                                                                    SEO ID NO 48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OPGANTSM
                                                                                                                                                                                                                                                                                                                                         PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        e
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              180 PNISFSGAIPIFDNLKNOGAISEPVFAFYLSKNKOEGSVVMFGGVDHOYYKGELNWIPLI 239
                                                     181 PNISFSGAIPIFDKLKNORAISEPVFAFYLSKDEREGSVVWFGGVDHRYFEGELAWVPLI 240
                                                                                                                                                                                                    300 VSCFATKYLPSITFIINGIKYPMTARAYIFKDSRGRCYSAFKENTVRTSRETWILGDAFL 359
                                                                                                                                                                                                                                    64 RNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLAVPS-PCTMPACSAPVWFRQLQSSTFQP 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       64 RNIKDLIYVGNITIGTPPQEEQVVEDTGSSDFWVFSDFCTSRACSTHVRFRHLQSSTFRL 123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  123 TNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGLEGR-NYDGVLGLNYPN 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       124 TNKTFRITYGSGRMKGVVAHDTVRIGDLVSTDQPFGLSVEBYGFEGRAYYDGVLGLNPN 183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ISPSGAIPIFDNEKNQGAISBPVFAFYLSKNKQEGSVVMFGGVDHQYYKGELNWIPLIEA 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            184 ISFSGAIPIFDNLKNQGAISEPVFAILLSKDEQEGSVVMFGGVDHRYYEGELNWVPLIEA 243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            242 GEWRYHMDRISMKRTYIACSDGCEALVHTGTSHIBGPGRLVNNIHRLIRTRPFDSKHYVS 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 24 GDWIIHMDRISMKRKIIACSGSCEAIVDTGTSAIBGPRKLVNKIHKLIGARPRHSKYYIS 303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      302 CFATKYLPSITFIINGIKYPMTARAYIFKDSRGRCYSAFKENTVRTSRETWILGDAFLRR 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      104 CSAVNILPSIIFTINGINYPCPGRAYVLKDSRGRCYSMFQENKVSSSTETWILGDVFLRV 363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4 IVLIGIVAFSBCIVKIPLROVKTMRKTLSGKNMLKNFLKEHPYRLSOISFRGSNLTIHPL 63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4 LVLLGLVAFSECIVKIPERRVKTWRNTVSGKNILNNILKEHVYRLSQISFRGSNLTTHPL 63
                                                                                                     240 EAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTRPFDSKHY
                                                                                                                               ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 77.3%; Score 1553; DB 1; Length 3B1; Dest Local Similarity 79.4%; Prod. No. 6.16-142 Matches 300; Conservative 25; Mismatches 51; Indels 2 Matches 300; Conservative 25; Mismatches 51; Indels 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CURRENT APPLICATION NUMBER: PCT/US02/37236A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 26, Application PC/TUS0237236A GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CURRENT FILING DATE: 2002-11-20
PRIOR APPLICATION NUMBER: 60/331,822
PRIOR FILING DATE: 2001-11-20
                                                                                                                                                                                                                                                                                                               360 RRYFSVFDRGNDRIGLARAY 379
                                                                                                                                                                                                                                                                                                                                         YFSVFDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           YESVEDRGNDRIGLARAY 381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PatentIn Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NUMBER OF SEQ ID NOS: 56
```

ORGANISM: bovidae

SOFTWARE: Pate SEQ ID NO 26 LENGTH: 381 PYPE: PRT CT-US02-37236A-26

g ò

-US02-37236A-26

RESULT 5

a

q à a ò ò Gaps

ä

Gaps

76.2%; Score 1529.5; DB 1; Length 380; 76.1%; Pred, No. 1.3e-142; ive 31; Mismatches 59; Indels 1;

Conservative

Best Local Similarity

Query Match

289:

Matches

; Sequence 48, Application PC/TUS0237236A

PCT-US02-37236A-48

362

182

ö a 9 ò g

à

ð

윤 à 8 à 8 à 8 à à 용

```
APPLICANT: LIGY, METHONS CAN PROPAGATIONS FOR ACCURATE EARLY PREGNANCY DIAGNOSI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICAMENT LOW, MATLERS C. OMPROFIXED C. OMPR
            300 VSCFATKYLPSITFIINGIKYPMTARAYIFKDSRGRCYSAFKENTVRTSRETWILGDAFL 359
                                                                                                                          301 VSCSAVDTLPSITFTINGINYRVPARAYILKDSRGCCYSSFQETTVSPSTETWILGDVFL 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61 HPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLWVPS-FCTMPACSAPVWFRQLQSST 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61 HPLRNIKDRLYVGNITIGTPPQEFQVIFDTGSSDLWVTSVFCTSPTGSTHVMPRHFDSST 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            120 FQPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGLEGRNYDGVLGLNY 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121 FRPTKKTFSINYGSGRMKGVVVHDTVRIGDLYSTDQPFGLSVVELGFDGIPFDGVMGLNY 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     180 PNISFSGAIPIFDNLKNQGAISEPVFAFYLSKNKQEGSVVMFGGVDHQYYKGELNWIPLI 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181 PKLSFSGAIPIFDHLRNOGAISEPVFAFYLSKDEQEGSVVWFGGVDHRYYKGELMWIPLI 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           240 EAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTRPFDSKHY 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         241 QAGDWSVHMDSISMKRKVIACSGGCKAVVDTGTSLIBSPRRLVNNIQKLIRAMPRGSEYY 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VSCFATKYLPSITFIINGIKYPMTARAYIFKDSRGRCYSAFKENTVR-TSRETWILGDAF 358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301 VSCSAVNTLPPIIFTIKGINYPVPAQAYILKDSRGHCYTTFKEDRLSPPSTETWILGDVF 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 MKWIVLLGLVAFSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 MKWLVLLGLVAFSECIVKIPLRRVKTMRKTLSGKNILNNFLKEHAYRLSOISSCGSNLTF 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           56; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                76.0%; Score 1526; DB 1;
76.9%; Pred. No. 2.8e-142;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           30; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FILE REFERENCE: UVMO019W0
CURRENT APPLICATION NUMBER: PCT/US02/37236A
CURRENT FILING DATE: 2002-11-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 50, Application PC/TUS0237236A
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 56, Application PC/TUS0237236A GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR APPLICATION NUMBER: 60/331,822
PRIOR FILING DATE: 2001-11-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          359 LRRYFSVFDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     361 LRRYFSVFDRGNDRIGLARAV 381
                                                                                                                                                                                                                                                                 360 RRYFSVFDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                                            361 RLYFSVFDRGNDRIGLARAV 380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SOFTWARE: Patentin Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches 293; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQ ID NOS: 56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORGANISM: bovidae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PCT-US02-37236A-50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PCT-US02-37236A-50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PCT-US02-37236A-56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQ ID NO 50
LENGTH: 381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                          qq
                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   윱
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       윱
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: LUCY, MAITHEW C.
APPLICANT: MEINIAISSEN. MIGEORPEN
APPLICANT: MEINIAISSEN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            180 PNISFSGAIPIFDNLKNQGAISEPVFAFYLSKNKQEGSVVMFGGVDHQYYKGELNWIPLI 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241 EAGDWIVHMDCISMRRKVIACSGGCEAVVDTGVSMIKGPKTLVDNIGKLIGATLRGFKHY 300
                                                                                                                                                                                                                                                     HPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLWVPS-FCTMPACSAPVWFRQLQSST 119
                                                                                                                                                                                                                                                                                                                   LPLRNIMDIEYIGTITIGTPPOCEOVVEDTASSDLWVPSIICNSSTCSTHVRERHROSST 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               120 FOPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGLEGRNYDGVLGLAY 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121 FRLTHKTFGITYGSGRMKGVVVHDTVRIGDLVSTDQPFGLSVAEYGFEGRRFDGVLGLNY 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               300 VSCFATKYLPSITFIINGIKYPMTARAYIFKDSRGRCYSAFKENTVRTSRETWILGDAFL 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61 HPLRNIMMLVYVGNITIGTPPQEFQVVFDTGSSDLMVPS-FCTMPACSAPVWFRQLQSST 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           HILLI : I : | I: | III |
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PNISFSGAIPIFDNLKNQGAISEPVFAFYLSKNKQEGSVVMFGGVDHQYYKGELNWIPLI 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181 PNISFSGAIPIFDKLKNOGAISEPVFAFYLSKDEQEGSVVMFGGVDHRYYKGELKWVPLJ 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTRPFDSKHY 299
                                                             1; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 MKWIVLLGLVAFSECIVKIPLROVKTMRKTLSGKNMLKNFLKEHPYRLSOISFRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 MKWLVLLGLVAFSECVVKIPLRRVKTMTKTLSGKNMLNNFLKEHAYRLSOISFHGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181 PNISFSKAIPIFDKLKNEGAISEPVFAFYLSKDKOKGSVVMFGGVDHRYYKGELNMVPLI
1 MKWIVLLGLVAFSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGSNLTI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 240 EAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTRPFDSKHY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       20 FOPTHKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGLEGRNYDGVLGLNY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  76.0%; Score 1526.5; DB 1; Length 380; 78.2%; Pred. No. 2.5e-142;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         26;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         26; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CURRENT APPLICATION NUMBER: PCT/US02/37236A
CURRENT FILING DATE: 2002-11-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 44, Application PC/TUS0237236A
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR APPLICATION NUMBER: 60/331,822
```

PRIOR FILING DATE: 2001-11-20 SOFTWARE: Patentin Ver. 2.0

LENGTH: 380 SEO TD NO 44

FILE REFERENCE: UVMO019W0 NUMBER OF SEQ ID NOS: 56 TYPE: PRT ORGANISM: bovidae PCT-US02-37236A-44

PCT-US02-37236A-44

RESULT 8

Best Local Similarity 78.2 Matches 297; Conservative

ò g ò g à a ò g

19

240 180

Query Match

용

PRIOR APPLICATION NUMBER: 60/331,822 PRIOR FILING DATE: 2001-11-20

NUMBER OF SEQ ID NOS: 56 SOFTWARE: PatentIn Ver. 2.0

SEQ ID NO 56 LENGTH: 380

Matches 291; Conservative 30; Mismatches

Best Local Similarity

8 à 8 윱 ð

ORGANISM: bovidae CT-US02-37236A-56

PYPE: PRT

```
APPLICAT: TOURY MACHINE MODELS

APPLICAT: WEIGHLANDEN. MODELSON

THE REPRESENT OWNERS OF STATIONS AND METHODS FOR ACCURATE EARLY PREDAMANCY DIAGNOST

THE REPRESENT OWNERS: PCPA/2004/77286.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61 HPLRNIRDIFYVGNITIGTPPQEFQVIPDTGSSDLWVPSIDCNSTSCATHVRFRHLQSST 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   120 FQPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGLEGRNYDGVLGLNY 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121 FRPTNKTFRIIYGSGRANGVIAYDTVRIGDLVSTDQPFGLSVEEYGFAHKRFDGILGLNY 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         180 PNISFSGAIPIFDNLKNQGAISEPVFAFYLSKNKQBGSVVMFGGVDHQYYKGELNWIPLI 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     240 BAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTRPFDSKHY 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     300 VSCFATKYLPSITFIINGIKYPMTARAYIFKDSRGRCYSAFKENTVRTSRETWILGDAFL 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181 PNVSSSGAIPIFDKLKNQGAISEPVFAFYLSKDKQEGSVVMFGGVDHRYYRGKLAWVPLI 240
                                                                                                                                                                                                                                                                                                                                241 OAGNWIIHMDSISIERKVIACSGGCVAFVDIGTAFIEGPKPLVDNMQKLIRAKPWRSKHY 300
                                                                                                                                                                                                                                                                                                                                                                                         300 VSCFATKYLPSITFIINGIKYPMTARAVIFKDSRGRCVSAFKENTVRTSRETWILGDAFL 359
                                                                                                                                                                                                                                                                                                                                                                                                                     301 VSCSAVNTEPSITFTINGINFPVPGRAYILEDSRRRCYSTFKEIPLSPTTEFWMLGDVFL 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61 HPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLWVPSF-CTMPACSAPVWFRQIQSST 119
61 HPLRNIKDLVYLANITIGTPPQEFQVFLDTGSSDLAVPSDFCTSPGCSKHVRFRHLQSST 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 MKWIVLGLVAFSECIVKIPLROVKTHRKTLSGRNMLKNFLKEHPYRLSGISFRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 MKWLVVLGLVAFSECIVKIPLRRVKTHRKTLSGKNMLNNFLKEDPYRLSGISFRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FOPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGLEGRNYDGVLGLNY
                                                                                    121 FRLTHKTPSITYGSGRIKGVVAHDTVRIGDLVSTDQPFSLSMAEYGLEHIPFDGILGLNY
                                                                                                                                                                   PNISFSGAIPIFDNLKNGGAISEPVFAFYLSKNKQEGSVVMFGGVDHQYYKGELNWIPLI
                                                                                                                                                                                                                                                                              240 EAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTRPFDSKHY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               75.0%; Score 1505.5; DB 1; Length 380; 74.5%; Pred. No. 3e-140;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          57; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                39; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 40, Application PC/TUS0237236A
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CURRENT FILING DATE: 2002-11-20
PRIOR APPLICATION NUMBER: 60/331,822
PRIOR FILING DATE: 2001-11-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                360 RRYFSVFDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    360 RRYFSVFDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRIOR FILING DATE: 2001-11-2
NUMBER OF SEQ ID NOS: 56
SOFTWARE: Patentin Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORGANISM: bovidae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PCT-US02-37236A-40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PCT-US02-37236A-40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches 283;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEC ID NO 40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: DRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ENGTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                             à
                                                                                                                9
                                                                                                                                                                                                                     Q
                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                      â
                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           윱
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 윰
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  윱
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Lucy, Matthew C.
TATLICANT: WATHARDAGAN AND METHODS FOR ACCURATE EARLY PREGNANCY DIAGNOSIS
TATLE OF INVENTION: CONFOSTIONS AND METHODS FOR ACCURATE EARLY PREGNANCY DIAGNOSIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ä
                                                                                                                                                                                                                                                                                                                                      ï
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61 HPLRNIMNLVYVGNITIGTPPQEFQVVFOTGSSOLAVPS-FCTAPACSAPVAFROLGSST 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61 HPLRNIMNLVYVGNITIGTPPQEPQVVPDTGSSDLAVPS-PCTMPACSAPVWFRQLQSST 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61 LPLRNIEDLMYVGNITIGTPPQEFQVVFDTGSSDFWVPSDFCTSPDCITHVRFRQHQSST 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               120 FQPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGLEGRNYDGVLGLNY 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           180 PNISFSGAIPIFDNLKNQGAISEPVFAFYLSKNKQEGSVVMFGGVDHQYYKGELNWIPLI 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181 PDESFSEAIPIFDKLKNEGAISEPIFAFYLSKKKREGSVVMFGGVDHRYYKGELNWVPLI 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          240 EAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTRPFDSKHY 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241 EEGDWSVRMDGISMKTKVVACSDGCEAVVDTGTSLIKGPRKLVNKIQKLIGATPRGSKHY 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     30 VSCFATKYLPSITFIINGIKYPMTARAYIFKDSRGRCYSAFKENTVRTSRETWILGDAFL 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301 VYCSAVNALPSTIFFINGINYPVPARAYILKDSRGRCYTAFKKORFSSSTRFWLLGDAFL 360
                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                         1 MKWIVLLGLVAFSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                           1 MKWVVLLGLVAPSECIVKIPLRRVKTMRKTLSGKNMLNNFLKEHGNRLSKISFRGSNLTT 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 MKWIVLLGLVAFSECIVKIPLRQVKTWRKTLSGKNMLKNFLKEHPYRLSQISFRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 MKWLVVIGLVAPSECIVKIPLRRVKTMRKALSGKNMLNNFLKEHAYRLSOISFRGSNLTS 60
                                                                                                                                                                                                                                                                                                                                      1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          75.1%; Score 1508.5; DB 1; Length 380; 75.8%; Pred. No. 1.5e-140;
                                                                                                                                                                                                                                                                        Length 380;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                      58; Indels
                                                                                                                                                                                                                                                                              DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  58;
                                                                                                                                                                                                                                                                              75.3%; Score 1511.5; DB 1.
76.6%; Pred. No. 7.6e-141;
```

33; Mismatches

Conservative

Matches 288;

à 8 à

Best Local

Similarity ORGANISM: bovidae

PCT-US02-37236A-52

TYPE: PRT Query Match

FILE REFERENCE: UVMOO1940
CURRENT APPLICATION NUMBER: PCT/US02/37236A
CURRENT FILING DATE: 2002-11-20
PRIOR APPLICATION NUMBER: 60/331,822

PRIOR FILING DATE: 2001-11-20

NUMBER OF SEQ ID NOS: 56

SOFTWARE: Patentin Ver. 2.0 SEQ ID NO 52

Sequence 52, Application PC/TUS0237236A GENERAL INFORMATION:

PCT-US02-37236A-52

à g ò

g qq ä Gaps

Length 377;

DB 1;

66; Indels

```
APPLICANT: LACK, Whetches. A Particle of Trill of the Research of the Trill of the Research of
                                                                                                                                                                                                                                                                                                                                                                                                                                                       61 HPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLWVPS-FCTMPACSAPVWFRQLQSST 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61 HPLRNIMDAVIVGKITIGTPPQEFQVYFDIGSSELAVPSVFCPSSACSTHIRFRHLESST 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       120 FQPTNKTFIITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGLEGRNYDGVLGLNY 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121 SGLYQKTESITYGSGSTKGFLAYDTVRIGDLLSTDQEFGLSMEBHGFBDLPFDGVLGLAY :180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               180 PNISFSGAIPIFDNIKNQGAISEPVFAFYLSKNKQBGSVVMFGGVDHQYYKGELNWIPLI 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       240 EAGEWRVHMDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTRPFDSKHY 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               239 QAGEWSLHMDRISMKRKVIACSGGCEAFYDTGTSLILGPRRLVNNIQKLIGATPQGSEHY 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               300 VSCFATKYLPSITFIINGIKYPMTARAYIFKDSRGRCYSAFKENTVRTSRETWILGDAFL 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       299 ISCFAVISLPSIIFTINGINIPVPARAYIHKDSRGHCYPTFKENTVSFSTETWILGDVFL 358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61 HPLRNIMMLVYVGNITIGTPPQEFQVVFDTGSSDLWVPS-FCTMPACSAPVWFRQLQSST 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61 HPLRNIRDFFYVGNITIGTPPQEFQVIFDIGSSELWVPSIFCNSSTCSKHDRFRHLESST 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       120 FOPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGLEGRNYDGVLGLNY 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 MKWIVLLGLVAFSECIVKIPLROVKTMRKTLSGKNMLKNFLKEHPYRLSOISFRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 MKWIVLLGLVAFSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 MKWLVLLGLVAFSBCIVKIPLRRVKTWTWTLSGRNMLNNFVKBHARLSGISFRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       69.1%; Score 1388.5; DB 1; Length 380; 71.1%; Pred. No. 1,1e-128;
                                                                                                                               Query Match 72.2%; Score 1449.5; DB Best Local Similarity 75.1%; Pred. No. 1e-134; Matches 284; Conservative 25; Mismatches 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       36; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CURRENT APPLICATION NUMBER: PCT/US02/37236A CURRENT FILING DATE: 2002-11-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 27, Application PC/TUS0237236A GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRIOR APPLICATION NUMBER: 60/331,822
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       359 RLYFSVFDRGNDRIGLAQ 376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRIOR FILING DATE: 2001-11-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       360 RRYFSVFDRGNDRIGLAR 377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches 270; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PatentIn Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQ ID NOS: 56
SOFTWARE: PatentIn Ver. 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity
                       ORGANISM: bovidae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORGANISM: bovidae
                                               PCT-US02-37236A-28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PCT-US02-37236A-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PCT-US02-37236A-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQ ID NO 27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ENGTH:
                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ô
                                                                                                                                                                                                                                                                               PAPICART: LACY, NATLIN-C.
APPLICART: MARKINACE COMPOSITIONS AND METHODS FOR ACCURATE EARLY PREGNANCY DIAGNOSIS
FILE REPRESE: UPMOSISON
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Lingly Methbew C.
PEPLICANT: Medilalagian, Medippen
TITLE OF INVENTION: COMPOSITIONS AND METHOUS FOR ACCURATE EARLY PREGNANCY DIACNOSIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       120 FRPTHYFRITYGSGRAKGVVVHDTVRIGDLVSTDQPFGLCLKDSGFKGIPFDGLGLSY 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       180 PHISPSCAIPIFDHLKNQCAISEPVFAFYLSKNKQEGSVVMFGGVDHQYYKGELNWIPLI 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61 HPLRNIMNLVYVGNITIGTPPQEFQVVFDTGSSDLWVPS-FCTMPACSAPVWFRQLQSST 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       60 HPLRNIRDLFTVGNITIGTPPQEPQVIFDTGSSDLWVASIFCNSSSCAAHVRFRHHQSST 119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       120 FQPTNKTFTITYGSGSMKGFLAYDTVRIGDLVSTDQPFGLSVVEYGLBGRNYDGVLGLNY 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       180 PNKTFSGAFPIFDKLKNEGAISEPVFAFYLSKDKQEGSVVMFGGVDHRYYKGELNWVPLI 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       240 EAGEWRVHNDRISMKRTVIACSDGCEALVHTGTSHIEGPGRLVNNIHRLIRTRPFDSKHY 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               24 0 QVGDWFVHMDRTTMKRKVIACSDGCKALVDTGTSDIVGPSTLVNNIWKLIRARPLGPQYF 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               300 VSCFATKYLPSITFIINGIKYPWTARAYIFKDSRGRCYSAFKENTVRTSRETWILGDAFL 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               300 VSCSAVNTLPSIIFTINGINYRLPARAYIHKDSRGRCYTAFKEHRFSSPIETWLLGDVFL 359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 MKWIVLLGLVAFSECIVKIPLRQVKTMRKTLSGKNMLKNFLKEHPYRLSQISFRGSNLTI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 MKWLVLLGLVAFSECIVKIPLRRVKTMRNAISGKNTLNNILKEHAYRLPQISFRGSNLT- 59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 379;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       60; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 1484; DB 1;
Pred. No. 4e-138;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       34; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                               CURRENT APPLICATION NUMBER: PCT/US02/37236A
CURRENT FILING DATE: 2002-11-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CURRENT APPLICATION NUMBER: PCT/USO2/37236A
CURRENT FILING DAPE: 2002-11-20
PRIOR APPLICATION NUMBER: 60/331,822
PRIOR FILING DATE: 2001-11-20
                                                                                                                                                                                               Sequence 29, Application PC/TUS0237236A GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 28, Application PC/TUS0237236A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRIOR APPLICATION NUMBER: 60/331,822
PRIOR FILING DATE: 2001-11-20
NUMBER OF SEQ ID NOS: 56
       361 RLYFSVFDRGNDRIGLARAY 380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               360 RRYFSVFDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       360 RRYFSVFDRGNDRIGLARAV 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               73.98;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOFTWARE: Patentin ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches 284; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FILE REPERENCE: UVMO019W0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQ ID NOS: 56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORGANISM: bovidae
                                                                                                                                                               PCT-US02-37236A-29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PCT-US02-37236A-29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PCT-US02-37236A-28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQ ID NO 29
LENGTH: 379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LENGTH: 377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
```

180 PNISFSGAIPIFDNLKNQGAISEPVFAFYLSKNKQEGSVVMFGGVDHQYYKGELNWIPLI 239

Gaps

;

Indels

73;

181 THISPSGAIPIPYKLKNDGAISBPVFAFYLSKDERBGSVVAFGGADHRYYKGELMHIPLM 240

Wed Apr 2 18:27:33 2003

6ò a ò 8

Search completed: April 2, 2003, 17:51:24 Job time : 33 secs

ò